Textile World

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Method of Preparing Cotton Standards

Adoption for Universal Use Makes the Process of Particular Interest at This Time—Samples Placed in Glass Vacuum Tubes Which Are Partially Closed and Then Exhausted—Grading Room Is Particularly Equipped to Provide Uniform Diffusion of Light—Preparation of Copies of the Standards

WASHINGTON, D. C.

ADOPTION of the United States cotton standards for universal use is creating interest of purchasers of forms or copies in the history of their development, the methods used in their preparation and the means by which they are preserved. In 1874 the movement within the cotton trade to secure universal standards for American cotton had its inception. Representatives of American cotton exchanges met on June 10 of that year in Augusta, Ga., to give consideration to adoption of a uniform standard of classification of cotton for the United States. Adoption of a standard American classification was recommended by a committee appointed to study the proposition. As a result of this recommendation certain standards prepared by a committee of experts were agreed upon and submitted to all cotton exchanges in this country. This standard American classification was used during the season of 1874-75 and a part of the following season by the majority of the exchanges but within a few years it was discontinued by practically all of them with the exception of the New York exchange. The latter did not abandon this classification until October 20, 1914, when the permissive standards issued by the Department of Agriculture in 1909 were adopted.

Great diversity developed in the use of cotton standards following the dismemberment of the American Cotton Exchange, a loose association of several cotton exchanges. Several markets adopted the Liverpool standard, while others adopted as the basic grade of their standard the "fully middling" or the "good middling" of the Liverpool standard. Some markets established standards based upon or directly related to the American classification as the latter was still in use in New York. Other markets created standards of their own. Although identical grade names were used there was no definite relation between various standards in use in the cotton belt and quotations for a specified grade of cotton soon became meaningless unless the standard of a particular market was designated. This was not always adequate, as various markets varied their standards from year to year to meet the exigencies of the crop. A standard thus became an uncertain gauge of the quality of the cotton and consequently quotations were confusing and frequently misleading.

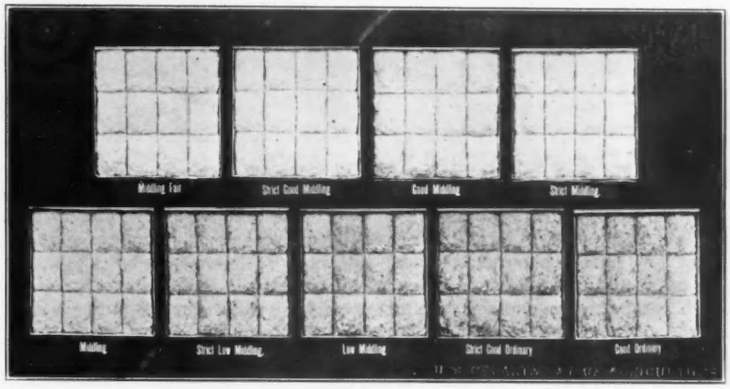

Fig. 1.—Complete Set of U. S. Official Standards for American White Cotton

The International Cotton Congress, which comprised cotton growers, spinners and manufacturers from Europe and America, at its annual meeting held in 1907 at Atlanta, Ga., unanimously passed a resolution favoring the adoption, either by the Government of the United States or by an association composed of representatives of cotton exchanges, cotton growers and cotton spinners, of standard types for grade and color, but without specifying what those standards should be. Nothing tangible resulted from this meeting other than an increase of public interest in the question.

By section 9 of the United States act for the Department of Agriculture for the fiscal year 1908-1909, approved May 23, 1908 (35 Stat., 251, 236) the Secretary of Agriculture was authorized to establish a standard for nine specified grades of cotton. These were established in 1909, their use being entirely permissive.

Fig. 2.—Placing Cotton Standards in Vacuum. At Left: Placing Standards in Glass Tubes. Center: Apparatus for Exhausting the Air and Also Showing Sealing of the Tubes. At Right: Storage of the Tubes

Official Cotton Standards of U. S.

By section 9 of the United States Cotton Future Act of August 18, 1914, the Secretary of Agriculture was authorized, from time to time, to establish and promulgate standards of cotton by which its quality or value may be judged or determined, including its grade, length of staple, strength of staple, color, and such other qualities, properties, and conditions as may be standardized in practical form, to be known as the "Official Cotton Standards of the United States." The use of the standards established under this act was made practically compulsory on the cotton future exchanges in the United States on and after February 18, 1915.

In preparing standards for grade under the United States Cotton Futures Act the primary object was to secure comprehensive standards for cotton of American growth which would be adapted to the needs of the trade in the United States and at the same time might be suitable for adoption as international or universal standards for American cotton.

Cotton experts from the New York and New Orleans cotton exchanges were secured to assist the experts in the Department of Agriculture in preparing the new standards. As bases in this work they used the permissive official standards and the so-called International or Liverpool Upland Standards.

It was found advisable to deviate from the permissive official standard, especially in the lower grades, since they seemed to be too white and high in character to represent fairly the actual conditions in which such cotton is received on the market.

International Standards

It was found undesirable to adopt the so-called International Standards which were in use in Liverpool for Upland cotton, because of certain deficiencies or irregularities. The chief of these objections were as follows:

1. The higher grades, especially from Good Middling up, where more creamy in color than is ordinarily

true of new or fresh American cotton.

2. Fully Low Middling contained one type that was decidedly tinged in color, which seemed to be out of place in a standard for that grade.

3. Fully Good Ordinary contained too much redish or yellowish tinged cotton, and two types of a distinctly higher grade than Strict Good Ordinary cotton usually is considered to be.

4. Good Ordinary was of a deeper bluish color than ordinarily is accepted in this country for that grade.

5. The distribution of color from Fully Low Middling and downward seemed to be inconsistent and illogical. The tinged type in Fully Low Middling was followed by bluish cotton in Low Middling, which in turn was followed by reddish tinged cotton in Fully Good Ordinary, and the latter was succeeded by bluish cotton in Good Ordinary.

6. Furthermore, the boxes were completely filled and the lids pressed upon the cotton.

Standards Established

Standards for nine white grades of American Upland Cotton were established and promulgated by public notice of the Secretary of Agriculture on December 15, 1914, as follows: Middling Fair, Strict Good Middling, Good Middling, Strict Middling, Middling, Strict Low Middling, Low Middling, Strict Good Ordinary, and Good Ordinary.

By order of the Secretary of Agriculture, dated January 28, 1916, standards for color in the various grades of American Upland cotton were established as follows: Good Middling Yellow Tinged, Strict Middling Yellow Tinged, Middling Yellow Tinged, Strict Low Middling Tinged, Low Middling Yellow Tinged, Good Middling Yellow Stained, Strict Middling Yellow Stained, Middling Yellow Stained, Good Middling Blue Stained, Strict Middling Blue Stained, and Middling Blue Stained.

On August 12, 1916, by reason of the reenactment of the United States Cotton Futures Act on the preceding day, the same standards for grades and colors of American Upland cotton were reestablished without change.

No change was made in these standards for American Upland cotton from the date of their original establishment until July 26, 1922, when an order was issued by the Secretary of Agriculture, effective August 1, 1923, making certain changes in the existing standards including the method of designating the grades and colors.

Changing Conditions of Growth

Nothwithstanding the wish of the cotton trade of the world for fixed standards and the policy of the Department of Agriculture to avoid changes in their make-up, this revision was deemed necessary because of the changing conditions of growth. In the eight years intervening between 1914 and 1922, the boll weevil occupied portions of Arkansas, Mississippi and Tennessee, nearly half of Alabama and all but a negligible part of the South Atlantic States. The extension of weevil activities into these regions has greatly modified the methods and processes of production. The maturity of much of the crop has been hastened, with the result that the average color is brighter than formerly. Furthermore, the percentage of deeply stained cotton is very much reduced, owing to the fact that the greater portion of the undestroyed bolls open early enough to be picked before the frosts and rains of late autumn impair their color. On the other hand, even the high grades of cotton may be marked by the larvae of the weevil, with a light spot. This spot bleaches readily and in fact will disappear in a short time if the cotton is exposed to light and air.

The need of adjusting the standards to fit the crop, the nature of which had been so profoundly affected by the changed conditions of growth, was fully demonstrated before their revision was considered. Specialists of the Department, who class on an average more than a quarter of a million bales of cotton annually for delivery on the New York and New Orleans cotton exchanges, were in position to observe particularly this necessity. Moreover, in purchasing cotton for the standards, Department representatives in many cases found difficulty in purchasing bales to match the standards, from among the many thousand which they examine yearly for this purpose.

Fig. 3.—Preparing Copies of the U. S. Official Cotton Standards

Composite Opinion of Trade

Contrary to the too general belief, the revised standards are not an arbitrary creation of the Government of the United States, but, on the other hand, represent a composite of the best opinion of the American cotton trade. On June 19, 1922, before the standards were fixed by official order, representatives of the leading merchants and spinners' organizations were invited to Washington to consider tentative sets of standards previously prepared by Department specialists.

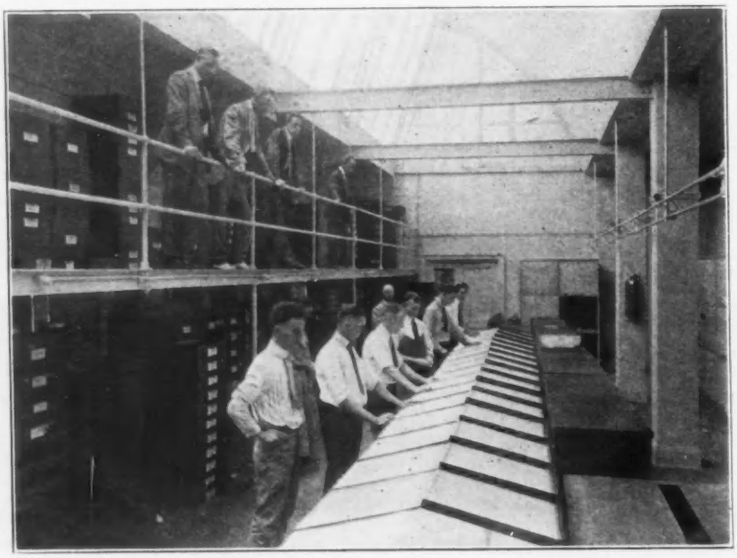

Fig. 4.—Final Inspection of Sets of U. S. Official Cotton Standards, Showing Reviewing Committee on the Platform

The visiting representatives made a most thorough examination of the tentative standards, scrutinizing each bale, matching the boxes in some cases with types of their own, and comparing the adjacent boxes carefully to test the uniformity of their gradations. On the suggestion of the trade, a few minor alterations were made. In this way the original nine boxes for the white grades and eleven boxes for color for Upland cotton were prepared. With the approval of the trade, numerical designations for the grades were established, No. 1 being assigned to the highest, Middling Fair, and succeeding numbers to successive lower grades.

The committee of the trade took under consideration also the question of intermediate color descriptions and of split-grades. The establishment of descriptive standards for colors between those of adjacent standards of color of the same grade and for Strict Good Middling Yellow Tinged was recommended, but the committee emphatically disapproved split-grades.

Cotton which in color is between the white boxes and the Yellow Tinged is Spotted, that between Yellow Tinged and Yellow Stained is Light Stained and that between White and Blue Stained is Gray.

On July 26, 1922, following the conference an order of the Secretary was issued, which established the standards as approved by the trade. Exact duplicates and colored standards were at once prepared and placed in vacuum. Each box of the original set was then wrapped securely in waxed paper, then covered with Manila paper, sealed and placed in a vault for safe-keeping.

The use of fixed standards introduces the problem of maintaining the standard unchanged from year to year regardless of how the characteristics of each crop may vary.

To everyone familiar with cotton it is well known that when a type is stored, as well as when in use and open to the light, it undergoes slight changes in color. This is especially noticeable in boxes of types which have been used as standards for several seasons. In the high grades some samples turn distinctly yellow, while some become a dead white, and in others mediary changes of color take place. In the lower grades the color and spots invariably bleach slightly, depending upon the length of time they have been exposed and the manner in which they have been handled. Therefore it is of the highest importance that some means be employed by which the standard can be maintained unchanged.

A method of preserving cotton in a vacuum was devised by Dr. N. A. Cobb, Agricultural Technologist of the Bureau of Plant Industry, United States Department of Agriculture, in connection with experimental work incident to the preparation of the former permissive standards. The experience of the Department of Agriculture extending over nearly

(*Continued on page 95*)

Editors
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EDITORIAL

We Believe in the Conservation and Protection of Domestic Industries

Where Are the Great Merchants?

POOR business was never caused by a decline in raw materials which left the purchasing power of producers unimpaired. Cheaper cotton and silk prices may not assure manufacturers as large profits as were netted on the business of the first half of this year, but they will make possible sufficiently attractive prices on manufactured goods to prevent any marked slump in the consuming demand, barring some unforeseen calamity. A more moderate decline in raw wool prices leaves values of manufactured wool goods relatively as attractive as those of cotton and silk manufactures, the advance in wool during the year having been much less than that in cotton and silk.

If cotton yarns and grey goods had been available two or three months ago at current prices most buyers would have considered prices of yarns and goods made possible by present values of raw cotton and silk sufficiently attractive to warrant large speculative purchases in anticipation of their spring needs. What has happened since then to render the majority of these buyers so cautious in their forward commitments? Nothing of a tangible character, excepting a further decline in raw silk to where values appear to be stabilized, and a radical decline in raw cotton to a basis that seems likely to be close to the minimum for the season. Every other tangible factor of the business situation is as strong as it was at that time, while the available supply of yarns and goods has been strengthened by curtailment, and the consuming demand is about to be increased by large and profitable crops.

The only happenings of a bearish character in the interim have been of an intangible nature, almost wholly a state of mind that is a sort of unconscious result of the slump in Wall Street, and the radical decline in cotton values. Values of raw cotton, yarns and cloths are lower in most instances than most buyers had hoped for (but had not expected) yet only in rare instances have they inspired courageous and confident buying. A few shrewd operators have been consistent buyers on the scale down of prices and when the permanent upturn starts they will have covered the field of their needs. A smaller number of buyers may call the turn in the market, but the great majority will buy on the advance. This is the usual course of business, but it seems somewhat strange in these days of business researches and their detailed statistics, charts and forecasts, that there should be such a slight increase in the number of our great merchants. Is it possible that this wide publicity given to business fundamentals and other facts has tended to develop a standardized class of merchants whose chief characteristic is caution, and who are lacking in the intuition, foresight and courage that were the chief characteristics of our old-time merchant princes?

Raw Silk Influences

THE raw silk situation contains a good many interesting elements which can be regarded as influencing the market in one direction or the other. The indeterminate factor is the Japanese status which is not sufficiently stable or healthy to guarantee belief in ability to hold firm for any price that may be asked. And yet the fact that losses are being made on every pound of raw silk which is being sold on today's basis makes it reasonable to prophesy that this condition cannot last indefinitely.

There has been a drop of approximately $2.50 from the peak of raw silk prices and there may be further declines, but shrewd observers of the situation are inclined to the belief that the market is rapidly settling to a trading basis. Manufacturing buyers look back to 1920 and recall the drop from $18 to $6 and even $5 a pound. They then raise the query—why cannot history repeat itself and the low level then reached again be witnessed? But conditions are not comparable. In the first place it is the general belief that manufacturers have no large stock of raw material and are simply waiting to provide for their future requirements until they can be assured that the market is not going lower.

Manufacturers proverbially never buy at the bottom. Prices are never going to stop declining in a weakening market and it is only when the actual bottom has been reached and values are on the rebound that they begin to realize the desirability, if not necessity of operating. That this rebound is a possibility of the near future is based upon the assumption that importers may begin operations before long. Such activity will, it is believed, be necessary in order to provide material with which to supply customers for the fall season. At present stock in hand with importers is practically negligible—a very different condition from that which usually obtains at this time of year. Also it is the opinion of many that a considerable short interest exists on the Japanese Bourse and that large operators for America are beginning to believe it is about time they were beginning to cover on these transactions. Should it become known that such a procedure was taking place it might very easily provide the signal for consumers to begin preparations for their fall requirements.

While manufacturers have been curtailing in a more or less indefinite manner and it may be that certain accumulations exist as a result of mill operations it is not the general belief in the trade that there is any burdensome surplus of manufactured goods on hand. While, of course, a seasonal dullness prevails with the retailer, yet conditions seem intrinsically sound and more or less general hope of satisfactory buying by the consumer for fall is entertained. Should such predictions be fulfilled it is not likely that raw material prices will go very much lower and the majority will not be surprised, even though occasional dips below this figure occur, that the eventual settlement will be in the neighborhood of $7 a pound and that on this basis comparatively free operations may be expected.

* * *

Cotton Report's Significance

ALTHOUGH the Government cotton condition and yield estimates as of July 25 were received with much skepticism in the yarn and cloth markets, the continued strength of the speculative cotton market, plus later Government and private reports noting crop deterioration since that date, has tended to inspire confidence in the accuracy of the Government condition estimate, if not in its yield figures.

Thus far the yarn and cloth markets have not profited by bullish interpretation of the crop report, other than in a definite checking of the downward trend of prices, but incontrovertible confirmation of the reported crop damage can hardly fail to stimulate buying.

Even if full allowance is made for previous errors in Government condition, acreage and crop estimates, it must be admitted that the latest report has been of value in awakening the trade to the fact that the crop will pass through its most critical stage during the next two or three weeks, and that during this period it is only a question of how much its condition may deteriorate. During succeeding weeks of the season there can be no important damage except to grade, and no increase in yield except through the top crop. In other words we are now close to the period when the bulk of the crop will be made and when buyers of cotton and its manufactures will form their own opinions as to the size of the crop and the probable course of cotton prices and operate accordingly.

It is to be hoped that by that time the relative importance to trading operations, of domestic and world cotton prices and of prospective demand and supply as they affect cotton manufactures may be seen in their true perspective. If they are we can feel certain that the latter, rather than the price of cotton, will exert maximum influence in determining the merchandising policy of manufacturers and distributors.

* * *

A Significant Meeting

THERE were several features of the underwear standardization conference at Washington last week which deserve emphasis. The most significant one is the fact that another branch of the textile industry has made definite plans to utilize the facilities of the Bureau of Standards. There

are now two textile research fellowships at the Bureau, one having been established a year ago by the National Association of Hosiery and Underwear Manufacturers, and the other just started by the Associated Knit Underwear Manufacturers of America.

This development is so logical that it is surprising that similar attempts were not made long before this. The equipment and personnel which the bureau has to offer can prove of decided value to the industry. The amount expended in maintaining fellowships is insignificant in comparison with the results which should be obtained.

Of no less significance is the co-operative plan by which underwear manufacturers hope to make their investigations more than a producers' movement and rather a concerted action of the entire manufacturing and distributing industry. Enlisting the endorsement and support of wholesalers and retailers is good psychology—and augurs well for the success of the movement.

Another interesting feature of the conference last week was the attitude of Government representatives who attended the meeting. Officials of the Division of Simplified Practice were glad of the opportunity to explain the part which that division could play in backing up the findings of the industry, but repeatedly emphasized the fact that they represented merely a point of contact between producers, distributors and consumers, and that they were neither inclined nor willing to inaugurate any part of the work on behalf of the Government. In fact when a retailer suggested that a distributor who sold a 36 union suit as a 44 might be made subject to the weights and measures act, it was a Government representative who retorted that the industry itself should be the real enforcement agency. Such an attitude will do much to appease manufacturers and business men whose past experience has taught them to avoid any possible contact with Washington officialdom.

Last but not least, this movement to standardize sizes and styles of underwear is significant in that it is not an isolated plan but a part of a general movement toward standardization which is being developed in all articles of wearing apparel. To the textile industry itself, the establishment of research fellowships at the Bureau of Standards, coupled with the broader program of standardization planned by Committee D-13 of the American Society for Testing Materials, offers hope for effective development in uniformity and classification of textile sizes, styles, specifications, etc.

Consider Sale of Plants

Victor-Monaghan Directors Discuss Tentative Plans

GREENVILLE, S. C., July 30.—A special meeting of the board of directors of the Victor-Monaghan Co., owners and operators of a chain of eight large textile plants in this section, was held here this morning to consider details of tentative plans already drafted looking toward the sale of four outlying plants of the company. The plan will be submitted to the stockholders at the annual meeting to be held Aug. 9.

Today's meeting of the board of directors lasted for nearly two hours and it is understood that the directors went into the proposed plan for the sale of the four plants in minute detail and formulated definite recommendations to be submitted to the stockholders' meeting. T. M. Marchant, president of the company, when seen immediately after the meeting adjourned, declined to discuss what transpired behind the closed doors of the directors' room. The other members of the board were equally reticent.

Directors Discuss Plans

Mr. Marchant admitted that the directors had discussed the proposed sale of the four plants but declined to say whether or not any definite offer for their purchase had been received. The proposal of Edwin Farnum Greene, president of Lockwood, Green & Co., of Boston, and associates to buy all the common stock of the Victor-Monaghan Co. at $148 a share, which was discussed by the directors at a recent meeting and received from them an adverse recommendation to the stockholders, was not reopened at today's meeting, it is understood.

Mr. Marchant said after today's meeting that the result of the board's decision would be submitted to the stockholders in August and that until the stockholders had met, nothing could be given out for publication regarding the plans for the disposal of the outlying plants.

Sharp to Install Looms

NEW BEDFORD, MASS.—The Sharp Mfg. Co., which has always been operated as a sales yarn mill, is to install immediately 1,000 Draper 44-inch automatic dobby looms, driven by individual electric motors, in the top story of their No. 2 mill. The looms will be operated on medium and fine count plain and fancy cloths, and the product will be sold through Catlin & Co. The top floor of the No. 2 mill, like that of the No. 1 mill, has a sawtooth roof and is admirably adapted for a weave room; in fact, with its high studding, its fine humidifying system and escalators for the convenience of the help it will be one of the finest weave sheds in the city. The cloth room will be located at one end of the weave room, and the slashers and warp preparation machinery on the ground floor below. Only slight rearrangement of existing machinery is necessary to make room for looms and complementary machinery, as the first floor and basement of this mill have never been completely filled. Eventually it is understood that 1,000 more looms will be installed in this mill, at which time it may be necessary to dispose of a portion of the spinning machinery. The slow demand for medium and coarse count carded and combed yarns is said to be the reason for the change, but No. 1 mill with 120,000 spindles on medium and fine count combed yarns continues to be operated in full.

Bids Asked by Marine Corps

Bids will be received on Aug. 15 at the Philadelphia Marine Corps Quartermaster Depot for 200,000 cotton undershirts, 120,000 pairs woolen socks, 120,000 natural white cotton socks, 15,000 yds. burlap, 15,000 yds. unbleached Canton flannel, 15,000 yds. 72-inch unbleached muslin, 25,000 yds. crash toweling, 10,000 hand towels, 25,000 lbs. cotton waste, 3,000 yds. scarlet flannel, 300,000 yds. white checked nainsook, 30,000 yds. cotton padding and a number of other textile items.

Sale of Mohegan Equipment

The machinery and equipment of the Mohegan Cotton Mills Co., New London, Conn., is being offered by G. L. & H. J. Gross, auctioneers, of Providence, for sale by public auction, on Friday, Aug. 10, 1923, at 12 o'clock, noon, eastern standard time, on the premises, 78 Water street, New London. The plant is a 5,400 spindle mill, equipped to make yarns from 16s to 30s. The sale includes motors, humidifiers, pickers, cards, spinning frames, slubbers, spoolers, beams, testers, four looms, etc.

Field Day for Spinners

The National Association of Worsted and Woolen Spinners will hold its third annual field day at the White Marsh Country Club, Philadelphia, on October 1. Golf, baseball and other sports, with dinner at the club in the evening, will be the program for the day. A special notice has been sent to members to reserve this date and details will follow.

Surplus Property Sales

WASHINGTON, D. C.—Auction sales of surplus army property have been scheduled tentatively by the Surplus Property Division of the War Department for the following dates: Sept. 27, Brooklyn, N. Y.; Oct. 3, San Francisco; Oct. 18, Chicago, and Oct. 24, San Antonio.

TEXTILE CALENDAR

Ninth National Exposition of Chemical Industries, Grand Central Palace, New York, Sept. 17-22, 1923.

Ninth Textile Exhibition, Textile Exhibitors, Mechanics Building, Boston, Oct. 29-Nov. 3, 1923.

National Association of Cotton Manufacturers, Fall Meeting, Copley-Plaza Hotel, Boston, Oct. 31 and Nov. 1, 1923.

Current Comment

"Pure" (?) Legislation

(From *Shoe and Leather Reporter*)

The State and national politicians are working the "pure" gag for much more than it is worth. Anyone with half of one eye open can see that it is votes, pure or impure, that are wanted. Pure shoes and pure fabrics are being exploited because live issues are scarce and something must be done to impress the complacent public that the hard worked public servants belong in the "well done good and faithful" class.

What this country needs is a pure liquor law, but there would be no need of that if the politicians had kept their hands off in the first place. Any practical man can explain why the so-called pure shoe and pure fabric bills are written in complete ignorance of the technique of manufacturing. The most expensive jewelry is not made from pure gold. Anyone over seven years old knows that perfectly pure gold would not wear well, but there are law makers over sixty years old who do not comprehend that the same principle applies to shoes and textiles.

Some of the proposed "pure" legislation is a gentle hint for those interested to see the committee and talk it over. May we not suggest a la President Wilson pure golf, pure stud poker and pure political speech bills? The percentage of twaddle and demagogy in the average stump speech is worse than any shoddy used in the textile trade.

Statesmen who imagine substitutes and adulterants are introduced to cheat with are wrong, as they may easily find out for themselves. And, by the way, this is more than can truthfully be said for political issues and intrigue.

Bartlett to Remain

The American Woolen Co. announces that Spaulding Bartlett, who has been agent of the Slater Mills, Webster, Mass., for many years, will continue in that capacity.

Business Light at National Merchandise Fair

Did Not Come Up to Expectations, but This Is Credited to Cautious Wholesale Buying Noted Generally Rather Than to Any Defect of Fair Itself—Broader Event Planned for Next Year—Contracts Developed at Fair Difficult to Evaluate—Style Show a Success

THE Second National Merchandise Fair, held at the Grand Central Palace and the 165th Regiment Armory, New York, under the auspices of the National Retail Dry Goods Association and the National Garment Retailers' Association, passed into history this week. Its position in history is difficult to evaluate in concrete terms. Even if it were possible to compile a statement of the actual amount of business done at the fair, which it is not, it would be hard to state what percentage of that business was stimulated by the fair itself and what percentage was routine business which would have been transacted anyway. Furthermore, it is difficult to estimate the value of the new contacts developed by the fair.

Speaking broadly, it may be stated that the transactions actually consummated did not come up to general expectations. This fact, however, may not be cited as proof of the failure of the fair or of the theoretical fallacy of the event itself. This year's show was staged under difficult merchandising conditions. Despite the fundamental soundness which is generally credited to industrial conditions today, it is a fact that wholesale buying at present is characterized by extreme caution. Some attribute this fact to an anticipation of restricted consumer purchasing, but it is more generally believed to be due to a feeling of indecision in wholesale circles as to future price tendencies.

At any rate, whatever the cause may be, the fair ran into this business situation, and its progress naturally reflected the conditions which it found.

Based on Sound Principles

Theoretically, the holding of the National Merchandise Fair is based upon apparently sound principles. It was conceived as a movement by which buyers could accomplish their purchasing under one roof and at a reduced expenditure of time and money. Naturally it was felt that this economy could be reflected in the cost of goods to the ultimate consumer. Furthermore, the sponsors of the fair felt that an event of this nature would attract to New York buyers who ordinarily did not come to the metropolis and would result in the establishment of new contacts which would prove of value in the future.

Undoubtedly the latter was one of the chief accomplishments of the fair. Exhibitors interviewed this week emphasized the fact that they had met a new class of buyers and that this contact repaid them for the expense of representation at the fair.

From a textile standpoint, certain of the comments of the event must be negative in character. For example, it was noted that cotton goods commission merchants who were present last year did not exhibit at this year's show. It was considered peculiar that this type of house exhibited last year at all; but it was explained that, even though they could not sell direct to the retailers who visited the fair, it offered them a good opportunity to establish good-will for their products, which good-will would ultimately be reflected in business done by jobbers who handle their lines. Sound as this reasoning appears to be, the fact that these firms were not represented this year indicates that such good-will was not considered worth the expense involved in exhibition at the fair.

However, there were exhibits of cotton goods firms which sell direct to the retailer, and in addition there were exhibits of woolen and worsted goods, linens, knit goods, silks, etc. Furthermore, the entire Armory was devoted to garment displays, which, of course, were of interest to the textile industry as an index to the style tendencies in that branch of the trade. Unfortunately, the business done at the Armory was of even smaller proportions than that consummated at the Palace.

Broader Fair Next Year

Probably the best answer to the question as to whether the fair was a success is found in the announcement by Lew Hahn, executive director of the National Retail Dry Goods Association, to the effect that another National Merchandise Fair will be held in 1924. Tentative plans call for broadening the scope of the event, and two suggestions have been made, one that other associations of retailers, wholesalers and manufacturers be invited to co-operate, and the other that it be made a Pan-American event, with an appeal to buyers of both North and South America.

Textile Exhibitors at Fair

THE following list shows firms which exhibited various lines of textiles at the Second National Merchandise Fair:

COTTON GOODS—Acme Quilting Co., Beacon Mfg. Co., Chicago Embroidery Co., Claflins, Inc., Marcus Diamond & Sons, Jas. H. Dunham & Co., N. Erlanger, Blumgart & Co., Inc., McKittrick, Huron & Co., Princely Mills, Reichenbach & Co., Shipley-Hollins & Co., Standard Mills, D. Strauss Co., Inc., Whitcombe McGeachin & Co.

HOSIERY—Artcraft Silk Hosiery Mills, Inc., Brown, Durrell Co., Gus Edelstein & Bro., Fain Knitting Mills, Holyoke Silk Hosiery Co., Kahn & Frank, Knoxville Knitting Mills, Lehigh Silk Hosiery Mills, Henry Lehmuth Co., Mavis Hosiery Co., Inc., Max Mayer & Co., Peerless Hosiery Dyeing Co., Ray-Mond Hosiery & Underwear Co., Richmond Hosiery Mills, Rockford Textile Sales Corp., Rosenhain Co., Inc., Rubens & Meyer, E. B. Sudbury & Co.

KNITTED OUTERWEAR—Simon Ascher & Co., Fain Knitting Mills, Inc., Knoxville Knitting Mills Co., M. Neuberger & Co., Henry Schanzer & Co., Yorkshire Knitting Co., Inc.

LINENS—Marcus Diamond & Sons, James Elliott & Co., Famous Art Embroidery Co., Freund Freund

General View of Exhibits at National Merchandise Fair in Grand Central Palace

& Co., Fix Mfg. Co., Granite Linen Co., Alex. J. Hamrah & Co., Walter H. Hildebrand & Co., George Kassab & Co., Cluny Dec., Florence Importing Co., H. Mallouk & Co., Mallouk Bros., Phoenix Linen Corp., N. J. Richman Co., Saydah Importing Co., Sferra Bros., Strawbridge & Clothier, Thos. Young, Inc.

RIBBONS—Britton & Athey, B. Blumenthal & Co., L. Dannenbaum & Sons Co., T. B. M. Gates, C. E. Hertlein, Lapin Specialty Mfg. Co., Pine Tree Silk Mills, Sanford Narrow Fabric Co., Charles Schoolhouse & Son, Standard Novelty Works.

SILKS — Aracoma Textile Co., Claflins, Inc., Haas Bros. Fabrics Corp., Jefferson Silk Co., Pine Tree Silk Mills, Robert Rosenthal & Co., Charles Schoolhouse & Son, D. Strauss Co., Inc., D. A. Tynan.

KNIT UNDERWEAR—Gus Edelstein & Bro., Kahn & Frank, E. H. Kluge Woven Label Co., Henry Schanzer Co., Winship Boit & Co.

WOOLEN AND WORSTED GOODS—F. A. Bochmann & Co., Inc., Claflins, Inc., Haas Bros. Fabric Corp., Rockford Textile Sales Corp., Walther Mfg. Co.

DEPARTMENT OF COMMERCE—The Bureau of Foreign and Domestic Commerce maintained an extensive service at the fair. One representative of the New York office of the Department of Commerce, W. P. Moran, was in constant attendance at the Bureau's booth, while eight divisions from Washington were represented by their chiefs. Those from Washington included: Edward T. Pickard, Chief, Textile Division; Grosvenor M. Jones, Chief, Finance and Investment Division; Arthur B. Butman, Chief, Shoe and Leather Manufacturers' Div.; R. A. Lundquist, Chief, Electrical Division; E. S. Gregg, Chief, Transportation Division; A. J. Wolfe, Chief, Commercial Laws Division; Henry Chalmers, Chief, Foreign Tariffs Division; H. H. Morse, Chief, Specialties Division.

Style Exhibit and Pageant

THE ready-to-wear exhibit at the 165th Regiment Armory and style show at the Lexington Theatre, both features of the National Merchandise Fair, presented a complete picture of women's fashions for the coming fall and winter seasons. There were over 110 houses represented at the Armory and 42 garment makers were represented in the pageant of style at the Lexington Theatre. These activities were under the auspices of the National Garment Retailers' Association.

Garment houses at the Armory showed their models in booths laid out like miniature shops, with show windows facing on the aisles and partitions which gave privacy to the interior of the booth. Attractive models were on display in the show windows which gave the appearance of a street to the aisles, and the racks within carried the models which might readily be shown to the visiting buyers without being shown at the same time to the concern's competitors.

Style Pageant

At the Lexington Theatre the style show was staged under the direction of Arthur Voegtlin, director of many of the Hippodrome spectacles. Many original ideas in style shows were evident. The presentation was divided into a number of "episodes," such as "Milady's Boudoir," "At the Country Club," "On the Beach," "Over the Tea Cups," etc., each with a stage set typical of the scene. The garments shown in each episode were such as would be worn at the time and place indicated.

The pageant was bound together by the impersonation of "Style," who spoke a prologue and epilogue. There were also incidental songs and dances by professional entertainers. A runway was built out from the stage to the back of the theatre down which the models paraded.

The class and number of garments shown on models was as follows: Dresses, 44; coats, 24; dinner and evening gowns, 21; afternoon and evening wraps, 12; tea gowns and negligees, 11; sport coats, 9; jacquettes and blouses, 5.

Fabrics Seen on Models

The outstanding impression of the fabrics as shown in the style pageant was the wide use of velvet in coats and dresses. Its treatment ranged from the use of plain solid colors through patterned effects to decorations of embroidered beadwork. In coats fine duvetyn and goods of the pile-sheen order were predominant for more or less formal wear with fur trimming much to the fore. Almost every coat model had fur collar, cuffs, and border around the bottom, with many carrying the fur from the collar down the front to connect with the fur border. Coats for sport and semi-sport wear showed the utilization of large plaids and stripes, many of them on a camel's hair background.

Among the colors for coats, browns and grays were important, but there was marked use of black. One of the most striking fur combinations which was duplicated on no less than three different models was red fox trimming on a black coat. Nemser Gowns showed a creation for evening wear in a new color called "Love Apple Red." In addition to this a number of the new reds, greens and blues were seen.

In dresses fine twills were shown together with a variety of silks including crepes, satin, chiffon velvet, moire, etc. In suits, coat dresses and three-piece costumes, there was generous use of fine twill worsteds and also goods of the velour character. In evening gowns there was a predominance of metal thread fabrics, some in plain gold and silver, and others brocaded with colored silk in various patterns. Among the few jacquettes shown very large floral patterns were seen, in one instance the figure being as deep as the length of the jacquette itself. The appearance of the moire noted above has been reported as developing abroad, and there is sufficient interest in it now to warrant talk of production of worsted moires.

In garment design the coats were all full length wrap-around affairs except those for sport wear. Many dresses were of the wrap-around design. Sleeves are tight at the shoulder and usually to the elbow with considerable freedom of treatment from the elbow to the wrist.

TEXTILE BALANCE OF TRADE FOR FISCAL YEAR

Imports

Manufactures of—	June	12 Months
Cotton	$7,207,333	$93,376,020
Jute	6,748,142	72,053,744
Flax and hemp	3,545,174	42,592,940
Silk	2,859,967	39,552,608
Artificial silk	865,261	8,742,642
Wool	4,672,582	50,034,575
Total Imports	$26,898,459	$306,352,529

Exports

Manufactures of—		
Cotton	$11,965,586	$145,360,208
Flax, jute, hemp, etc.	129,059	2,366,852
Silk	796,650	11,905,014
Artificial silk	597,771	7,712,198
Wool	388,614	6,682,574
Total Exports	$13,877,680	$174,026,846
Excess of Imports over Exports	$13,020,779	$132,325,683

State Port for Georgia

ATLANTA, GA.—Savannah will become the State owned and State operated port of Georgia under the terms of a bill introduced before the Georgia legislature, now in session in Atlanta. A bond issue of $15,000,000 is proposed for the construction and maintenance of warehouse and docking facilities. A State owned port, it is believed, would bring about considerable expansion of export business for Georgia's manufactured products.

June Wool Consumption

Less Than in May, but Well Above June, 1922

WASHINGTON, D. C.—The total quantity of wool entering into manufacture during June was approximately 6,500,000 lbs. less than was consumed during May, but exceeded the amount consumed during June, 1922, by more than 1,000,000 lbs., according to the monthly wool consumption report made public by the Bureau of the Census, Department of Commerce.

The report does not include data for the American Woolen Co., Amos Abbott Co., Carolina Cotton & Woolen Mills Co., Columbia Woolen Mills, Crown Mills, Davisville Woolen Co., W. J. Dickey & Sons, Faulkner & Colony Mfg. Co., Hillsborough Mills, Merrick Woolen Corp. or Sheble & Kemp.

The total quantity of wool entering into manufacture during June, 1923, as reported, was 44,700,268 lbs., as compared with 51,154,244 lbs. in May, 1923, and 43,519,125 lbs. in June, 1922.

The consumption shown for June included 34,864,437 lbs. of wool in the grease; 7,004,574 lbs. of scoured, and 2,831,257 lbs. of pulled. Reduced to grease equivalent these quantities would amount to 52,648,595 lbs.

The grease equivalent for May, 1923, was 59,682,254 lbs., and for June, 1922, 52,620,985 lbs.

Classified by Grades

Classified according to grade, the total includes 8,405,760 lbs. of fine wool, which may be compared with 9,473,378 lbs. consumed in May, 1923, and 9,044,055 lbs. consumed in June, 1922; 5,631,344 lbs. of one-half blood, as against 6,998,605 lbs. in May, 1923, and 5,510,160 lbs. in June, 1922; 7,744,870 lbs. of three-eighths blood, as against 8,176,955 lbs. in the month preceding, and 7,638,986 lbs. in June, 1922; 9,594,024 lbs. of one-quarter blood, which may be compared with 11,034,323 lbs. in May, 1923; and 10,503,495 lbs. in June, 1922; 1,411,260 lbs. of low or Lincoln, of which grade 1,849,242 lbs. were used in May, 1923, and 1,238,514 lbs. in June, 1922; and 11,913,010 lbs. of carpet wool, which is less than the consumption in May, which amounted to 13,621,741 lbs., but more than the consumption in June, 1922, which was 9,583,915 lbs.

Of the total quantity of wool used by manufacturers during June, 1923, 32.1% was domestic wool, and 67.9% was foreign wool. The carpet wool was all of foreign origin, while 39.6% of the fine wool was produced in this country; 54.5% of the one-half blood; 53.5% of the three-eighths blood; 33.4% of the one-quarter blood, and 35.3% of the low grade.

Division by States

Of the total consumption of wool in June, 1923, 50.9% was reported from the New England States; 40% from the Middle Atlantic States; 1.2% from the Pacific Coast States, and 7.9% from other sections of the country.

A. W. Prices Women's Wear

Dept. 4 Opening for Spring Is Well Received—Lines to Be Allotted

The opening of women's wear fabrics by the American Woolen Co. in Department 4 on Tuesday, July 31, was met by a hearty response from the trade. It was understood that the line was practically sold up to within the first two days and that goods will be allotted. It was also learned that the line would be withdrawn on Satrday, Aug. 4, the additional days being granted so that all buyers who wanted to view the line might do so and get their names on the order books in order to share in the allotment.

Moderate Rise Shown

The prices on spring lines of women's wear shown by the big company indicate a moderate rise from the figures named at the opening of the fall, 1923, season. A list of 17 representative numbers which are repeated show that the advance from the fall opening ranges from 1 to 11%, averaging 5.5%. On the eight of these 17 numbers which are said to be the largest sellers in the company's offering the advance ranges from 1 to 5.9% and averages only 3.1%. In naming its prices it is clear that the big company not only wanted the figures to be right at the time of opening but right six months from now when the goods are being delivered and cut up.

The line as a whole is the biggest and most varied ever shown by the American Woolen Co. There are 32 pile-sheen coating numbers, including five novelty numbers with plaid and stripe effects. There are 24 numbers of worsted twills, including four numbers of pencil and self stripe effects. In the general group of Polaires there are 29 numbers, including 11 luster pile Polaires, three Deauville sport Polaires and two fancy stripe and plaid Polaires. In the last two sorts there is a wide variety of plaids and stripes shown. Three rep numbers are shown and two tweeds. The spring line also includes two staple 10-oz. velours. Six numbers of heavyweight velours and meltons are shown in a supplementary group for delivery in the last quarter of the year. Weights on the latter range from 18 to 21 oz. and prices from $1.25 to $1.67½.

Wide Color Range

The American's spring color card shows 39 shades, which cover all the sought-after colors. This season all colors are offered at the same price while last season certain were held at a premium.

Among the twills shown special mention is made of a number offered under the name of Poiret-sheen at $2.95, a narrow twill with high luster, especially adapted for the dress and suit trades. The line of twills is offered in a range of tans and grays in addition to the usual staple blues. In the corded fabrics, the 9 oz. Rep-O-Laine at $1.72½, is particularly in-

(*Continued on page* 131)

To Develop Underwear Standards

Conference at Washington Shows Producers and Distributors Appreciate Need for Such a Movement

THE underwear standardization meeting held at the Bureau of Standards, Washington, D. C., on Thursday of last week and reported briefly in last week's issue of TEXTILE WORLD, was of particular interest in that the discussion which developed there showed clearly the agreement between manufacturers and retailers as to the essential need for standardization of both sizes and styles of underwear.

The movement, started by the Associated Knit Underwear Manufacturers of America, will not be a producers' movement solely, but will have the support of the distributing agencies in the underwear field. The plan, as outlined by the manufacturers' association, calls for the establishment of a research fellowship at the Bureau, maintained by the various association. The Associated Knit Underwear Manufacturers of America have pledged $6,000 for the first year of this work, and in addition it is proposed to ask five wholesalers' and retailers' associations to contribute $1,000 each, bringing the total for the first year to $11,000.

The associations which have been invited to participate in this movement are the National Wholesale Dry Goods Association, National Association of Retail Clothiers, Southern Wholesale Dry Goods Association, National Wholesale Men's Furnishings Association, and the National Retail Dry Goods Association. Only one of these organizations, the National Association of Retail Clothiers, was able to be represented at the meeting last week, but the others are being consulted on the plan.

Representatives Present

Robert S. Cooper, president of the Cooper Underwear Co., Kenosha, Wis., represented the Associated Knit Underwear Manufacturers of America at the conference. Roy A. Cheney, secretary of the association, who has been active in developing plans for this work, was unable to attend. Another representative of that association was Charles H. Hamlin, who has been appointed research fellow to work at the Bureau under the direction of officials of the Bureau. Mr. Hamlin, whose salary is to be paid by the underwear association, has had several years practical experience in both spinning and knitting mills, having been connected with the Skenandoa Cotton Co. and the Utica Knitting Co.

Representing the National Association of Retail Clothiers were Sidney Berney, Gilbert Greentree and Charles C. Federleicht. F. R. McGowan, chief of the textile section of the Bureau of Standards, represented the Bureau at the meeting, and in addition there were several other representatives of governmental departments, including the Division of Simplified Practice of the Department of Commerce.

Men associated with the latter division were called upon first to explain the part which that division could play in the endorsement of standards developed by the underwear industry. They outlined the movement which is under way in all branches of the clothing industry, and emphasized the fact that the idea is to develop standard sizes of various articles of apparel so that a size will mean something definite. They stated that the division did not attempt to establish standards, but merely served as an agency to bring together the producer, distributor and consumer and then to publish standards developed by the trade as "Simplified Practice Recommendations," which definitely put up to the industry at large the recommendations of the various cooperating groups. They told of the work that had been done in other industries, and stated that the division felt that this standardization was really more important to the distributors than to the producers.

Plans of the Manufacturers

Speaking for the knitters, Mr. Cooper stated that Secretary Cheney had commenced to study the possibilities of this work about two years ago and had recommended several problems. It was realized that in many products there is no standard unit of value, so that a consumer can estimate what he is getting for his money. In the same way a retailer cannot give adequate service to customers in the matter of sizes, styles, etc. The present nomenclature, Mr. Cooper stated, is extremely loose. He cited the use of the terms "stouts," "stubs" and "shorts," all meaning the same thing, and stated that there was a real opportunity to simplify this nomenclature so that all retailers and consumers could speak the same language and call their product by the same name. He emphasized the fact that the problem of the retail storekeeper is to determine the kind of service he can render the public in order to meet the kind of competition he faces. To aid in determining this service, Mr. Cooper expressed the belief that in the last analysis there is a standard by which the consumer can measure the value he gets for his money. Working back from the consumer through the retailers and wholesalers to the manufacturer, the latter can supply such standards if they have the intelligent support of all distributing agencies.

Mr. Cooper explained the establishment of the research fellowship by his association, and remarked that the purpose of the meeting was to get the views of retailers and wholesalers as to how the problem could be solved so that goods could be marketed as standard goods.

Style Standardization

Speaking for the National Association of Retail Clothiers, a representative of that organization read a letter from the chairman of its board of directors stating that, in addition to the standardization of sizes, he believed there was a real field for the simplification of styles. This need was referred to several times during the conference, and, while it was admitted that its solution involved many difficulties, it was realized that this phase of the subject should not be neglected. Mr. McGowan brought out that one of the first phases to tackle in style standardization was one of definition. Along this line it was remarked that, outside of the term "athletic underwear," there is no standard nomenclature by which a customer can designate briefly a particular combination of length of sleeve and leg which he desires.

In regard to size standardization, a retailer present mentioned the fact that a consumer buys a 44 union suit instead of a 38, knowing that it is a sub-standard, and also that it will shrink. He stated that if the manufacturers could eliminate sub-standards they would have accomplished a great deal; but he expressed the belief that if goods were merely marked "sub-standard" and actual standards cost a little more, many purchasers would order the former.

In answer to a question, Mr. Cooper stated that he did not know whether it would be possible to force manufacturers to make standard sizes only, but that Mr. Cheney feels that by the use of labels distinguishing standards from sub-standards, definite results could be accomplished.

Enforce Its Own Standards

The question was raised whether or not a man who sells a 38 garment as a 44 is not as much subject to the weights and measures law as a man who sells 9 pounds of potatoes as 10 pounds. In this connection a representative of the Division of Simplified Practice stated that the knit goods trade itself is the real government in this question and should enforce its own standards.

Asked definitely whether there were any specifications for a 44 union suit, for example, Mr. Cooper stated that if there were he did not know of them. Therefore, the initial phase of the work seemed to be the establishment of such specifications.

As to the accomplishments in other branches of the industry, Mr. McGowan spoke of the work in cutting down tolerances on blanket widths, thus establishing closer standards and also saving actual money to the producers.

Labeling Legislation

An interesting discussion was developed when a retailer asked if it were not possible to enforce the labeling of goods showing the percentage of component materials. Mr. Cooper replied that he was absolutely opposed

to anything along the lines of so-called "truth-in-fabric" legislation on the grounds that under such legislation people would be more imposed upon than they are at present. He expressed the belief that it is impossible to express values in terms of percentages, and instanced the fact that there is such an infinite number of grades of wool that no mere statement of a certain per cent. of wool will be a true index to the value of the garment. He remarked that one firm might make a garment containing 50 per cent. of excellent wool and another a garment containing 70 per cent of poor grade of wool, and that the former might easily cost more and be worth more.

Net Result of Meeting

The meeting was of real value in that it brought together producers and distributors on this vital matter. The net results accomplished may be listed as follows:

1. The retailers present expressed their approval of inaugurating standardization work in the underwear industry, and stated that they would bring the matter officially to the attention of their association in order to get an expression of opinion as to the amount of support, both financial and moral, which that organization would be willing to give.

2. The other associations mentioned above will be approached on the matter in order that their support may also be secured.

3. The general procedure will be first to work out standard specifications for sizes and standard style definitions, not as permanent standards, but as merely tentative ones, which may be "shot at" by the various factors concerned.

4. The Associated Knit Underwear Manufacturers of America are prepared to prosecute this work, having their research fellow already on the job at Washington, but, of course, welcome the co-operation and support of the other associations in order that the work may be truly representative of the producing and distributing industry, as it is realized that complete success depends upon such team work.

Textile Machinery Exports

Domestic exports of textile machinery from the United States during May, 1923, included 497 knitting machines valued at $158,218; 22 cotton carding machines valued at $31,906; 35 cotton spinning and twisting machines valued at $73,761; seven cotton looms valued at $1,316, and 161,320 pounds of "other cotton machinery" valued at $72,035. England, Argentina, Hongkong and Quebec and Ontario were the largest takers of knitting machines while Canada and Japan were the largest takers of "other cotton machinery."

Active Wool Machinery

Only Slight Losses in June as Compared with May

The Department of Commerce, Washington, D. C., announces the following information with regard to active and idle wool machinery for June, 1923, based on reports received by the Bureau of the Census from 952 manufacturers, operating 1,133 mills. These do not include the data for the Amoskeag Mfg. Co., Manchester, N. H.; John & James Dobson, Inc., Philadelphia, Pa.; Faulkner & Colony Mfg. Co., Keene, N. H.; Merrill Woolen Mills, Merrill, Wis., or Sheble & Kemp, Philadelphia, Pa. Two manufacturers, operating two small mills reported for May, discontinued operations for June.

Looms

Of the total number of looms wider than 50-inch reed space, 51,079, or 84.3% were in operation for some part of the month of June, 1923, and 9,513 were idle throughout the month. Active machine-hours reported for wide looms for the month of June, formed 90.1% of single-shift capacity, as compared with 91.3% for May, 1923, and 63.8% for June, 1922.

Of the total number of looms of 50-inch reed space or less, 4,390, or 83.8%, were in operation at some time during June, and 2,786 were idle. Active machine-hours for these looms represented 83.0% of single-shift capacity, as against 84.4% in the preceding month and 59.9% in June, 1922.

The number of carpet and rag looms reported for June, 1923, was 9,121, of which 7,979, or 87.5% were in operation for some part of the month, and 1,142 were idle. Active machine-hours reported for these looms represented, 85.0% of single-shift capacity, as compared with 85.7% in May, 1923, and 72.1% in June, 1922.

Spinning Spindles

Of the total number of woolen spindles reported in June, 1923, 1,994,909, or 87.1% were in operation for some part of the month, and 294,934 were idle. The active woolen-spindle hours reported for this month represented 92.8% of single-shift capacity, as compared with 99.9% in May, 1923, and with 89.9% in June, 1922.

The number of worsted spindles in operation during June, 1923, was 2,227,531, or 90.0% of the total, and the number idle was 246,855. Active worsted-spindle hours were equal to 95.1% of single-shift capacity, as compared with 103.6% in May, 1923, and 68.5% in June, 1922.

Cards and Combs

Of the total number of sets of cards reported for June, 1923, 6,204, or 88.7% were in operation at some time during the month, while 787 were idle. Active machine-hours for cards were equal to 105.4% of single-shift capacity in June, 1923; 101.4% in May, 1923, and 91.0% in June, 1922.

Of the combs reported for June, 1923, 2,125, or 83.5% were in operation for some part of the month, and 419 were idle. Active machine-hours for this month were equal to 102.6% single shift-capacity; as compared with 112.6% in May, 1923, and 81.2% in June, 1922.

BASIC CONDITIONS ENCOURAGING

The following headlines appeared in the *New York Times* of Aug. 2: "Snap Up Swiss Loan of 20 Millions Here"; "25,000,000 Bonds Sold in 3 Hours"; "Orders for Steel Grow in Volume"; "Car Loadings Set a New High Mark"; "Business Failures Decreased in July." In addition statements regarding mail order business were in the same encouraging vein. Montgomery Ward & Co.'s July sales were $7,491,908, as compared with $5,110,163 in July, 1922, an increase of 46.61%. Sales for the first seven months were $5,315,342 in excess of the same period in 1920, which was the previous high mark. The July sales of Sears, Roebuck & Co. aggregated $14,960,939, compared with $12,244,961 for the same month in 1922, or an increase of 22.18%.

Wool Clip Estimate

Preliminary Figure of 228,031,000 Lbs. for 1923

A wool clip of 228,031,000 lbs. for 1923 is the preliminary estimate issued today by the United States Department of Agriculture. This exceeds the 220,155,000 lbs. clip of 1922 and the 223,062,000 lbs. clip in 1921, but is below the clip of 1920, which was 235,005,000 lbs. and still further below that of 1919, with its 249,958,000 lbs.

Texas with 19,700,000 lbs. leads in the estimate of the wool clip for 1923. Wyoming is next with 18,800,000 lbs., followed by Montana with 18,295,000 lbs., Utah with 17,210,000 lbs., Idaho with 16,500,000 lbs., Ohio with 14,313,000 lbs., California with 14,181,000 lbs., and Oregon with 13,200,000 lbs. No other state has as much as 10,000,000 lbs.

Paterson Mfrs. to Organize

At a meeting held recently at Munzer's Hall members of the old Association of Silk Manufacturers which disbanded in 1920 met with the view of forming a new organization. The meeting was well attended by the smaller manufacturers. It was stated that the purpose was mainly to permit joint action in buying and selling and various other matters rather than to consider labor problems.

Australian Clip Shrinks

Drought Affects Both Yield and Condition—Higher Prices

(*Special Correspondence.*)

SYDNEY, N. S. W., June 1.—During the last wool season in Australia, United States buyers purchased 218,585 bales, approximately 78,000,000 pounds. Purchases for the ten months ending April 30, 1923, on the Sydney market alone, this selling season, ran into 68,113 bales valued at £2,036,000. The probable shrinkage in the 1923 Australian clip, the shearing of which commences in June, is, therefore, a matter of some concern to United States consumers.

In the six Australian States an unusually dry period has been experienced since the shearing of the previous clip was completed last October. As Australia pastures 80,000,000 sheep, a decline of even one pound per sheep in the fleece cut per head means a drop in the country's production of not far short of 200,000 bales. Probably the decline will be greater than the drop mentioned. Customarily Australian flocks produce an average fleece of 8 to 9 pounds per sheep. Numbers of flocks last year gave an average of 10 to 12 pounds.

Wools Poorer Conditioned

The excellent standard which has been attained in breeding is evidenced by the fact that, though only pasturing one-seventh of the world's sheep, Australia annually shears one-fourth of the world's clip. The rise or fall in production of wool in the Commonwealth is, therefore, a market influence of no small moment. From the American purchasers' standpoint, the falling off in condition of the coming clip is a point of even graver concern. United States buyers usually center their attention on sound, well-grown wools at the Australian sales. Supplies, free from fault and showing no break in the staple, will be particularly scarce owing to the dry season. As Japan and Yorkshire also keenly seek sound wools, American buyers will be compelled to bid very freely for their requirements.

Higher Prices Expected

A decided rise in prices for all sound merinos and medium to fine crossbreds is anticipated. At present prices in the grease in Australia are as follows:

Super merino fleece	30d. to 35½d.
Good merino fleece	21d. to 28d.
Fine crossbred	20d. to 26d.
Medium crossbred	11d. to 18d.

Of late a strong demand on French and Japanese account has been experienced for scoured coarse crossbreds, free from vegetable fault such as burr and grass seed. Wools of this type, which a year ago were worth 7d. to 8d. are now making 16d. to 22d. Full wool Lincoln sheepskins, realizing 3½d. per pound twelve months ago, are now selling to 10d. A good full wool merino sheepskin is worth 23 shillings.

In producing circles the utmost optimism exists regarding the future of wool markets.

German Cotton Industry

First Half of Year Marked by Curtailment

(Special Correspondence.)

Statistics which are quoted monthly by the leading federations of German cotton spinners and weavers indicate a further stagnation as the disastrous effect of the accelerated slump in the mark and the French Ruhr policy.

The total number of spindles is estimated at 9,500,000, and that of cotton looms at 250,000. Of this maximum capacity of spinning there has been employed during the first half of the year 71% and 55% of the weaving machinery. The greatest stoppage in spinning was in May with 68%; the best result in January with 77% operated. The corresponding figures in the weaving industry were 55% in January and 43% in March.

The average output of yarn is computed at 11-12,000,000 kg. a month, but the total of the yarn supply exceeds this quantity by about 2,000,000 kg. which have been imported from England, Alsace, Czechoslovakia and Belgium. The bulk of these imports consists of the finer counts which are required by the lace, hosiery, underwear, knit goods and silk industries.

It is impossible to collect sufficient information to give exact statistics of the output of the cotton weaving industry, which produces so many styles and qualities.

On the whole the period was featured by marked retardation of the normal capacity both of the spinning and weaving industry, which is due to three factors: The advance in the raw materials—for instance in May by the progressive depreciation of the exchange since April the price rose to a record height in Bremen in spite of the fall in New York; second, the low purchasing power of the home market in consequence of the fall of the mark, and last but not least, the drop in exports due to the rapid increase of the costs of production.

In spite of the adoption of the 46-hour week the spinning as well as the weaving industry was forced to a further reduction of hours to 25-35% in the period. This extensive short time has led to a decline in production which is dangerous not only for its social consequences but also for its increase in manufacturing costs.

Calculations and price-policy have become problems of their own in these six months. Calculation in the mark has disappeared between spinners, weavers and wholesalers and has been completely eclipsed by calculation in dollars. Payments, however, are ordered in marks by strict decrees of the Government to protect the mark from further downward plunge. Consequently, between wholesalers and retailers a way of calculation is becoming more and more usual, which fixes basic rates corresponding with pre-war prices. These are multiplied by a textile index-number, altered with the depreciation of the mark. And the consumer is lastingly checked by the abyss between the increase of prices and his buying power!

Exhibitors at Textile Exposition

List of Firms Who Have Already Reserved Space at Ninth International Event

THE following firms have thus far reserved space in the Ninth International Textile Exposition, to be held in Mechanics' Building, Boston, Oct. 29 to Nov. 3:

Ainslie Knitting Machine Co., Brooklyn, N. Y.; Alabama Power Co., Birmingham, Ala.; Aldrich Machine Works, Greenwood, S. C.; Allbestos Corp., Philadelphia; Alsatian Machine Works, Ltd., Boston; American Abrasive Metals Co., New York; American Arch Co., Inc., New York; American Kron Scale Co., New York; American Moistening Co., Boston; American Pulley Co., Philadelphia; American Scrubbing Equipment Co., Hannibal, Mo.; American Steam Gauge & Valve Mfg. Co., Boston; American Tool & Machine Co., Boston; American Wringer Co., Woonsocket, R. I.; Arabol Mfg. Co., New York; Armour Soap Works, Chicago; Armstrong Machine Works, Three Rivers, Mich.; Ashton Valve Co., Cambridge, Mass.; Ashworth Bros., Inc., Fall River, Mass.; Atkinson, Haserick & Co., Boston; Atlas Plywood Corp., Boston; Atteaux & Co., Inc., F. E., Boston.

Bahnson Co., New York and Winston-Salem, N. C.; Barber-Colman Co., Rockford, Ill.; Beach Soap Co., Lawrence, Mass.; Bellamy Mill Wright & Machine Co., Boston; Blackstone Valley Comb Works, New Bedford, Mass.; Blocker, Gregory Co., Boston; Borne, Scrymser Co., New York; Bradley Washfountain Co., Milwaukee, Wis.; Braman Dow & Co., Boston; Brinckerhoff Co., H. Gordan, Boston; Bristol Co., Waterbury, Conn.; Brock & Co., Edward P., Boston; Brown, L. C. & G. W., Boston; Bundy Steam Trap Co., Manchester, N. H.; Butterworth & Sons Co., H. W., Philadelphia.

Carbic Mfg. Co., Boston; Carrier Engineering Corp., Newark, N. J.; Cashin & Co., W. D., Boston; Celite Products Co., Chicago; Clipper Belt Lacer Co., Grand Rapids, Mich.; Cochrane Steam Specialty Co. of Mass., Boston; Coppus Engineering Corp., Worcester, Mass.; Corbett, W. F., Philadelphia; Couch, L. A., Boston; Courtney Co., Dana S., Chicopee, Mass.; Crane Packing Co., Chicago; Cresson-Morris Co., Philadelphia; Crew Levick Co., E. Cambridge, Mass.; Curley, Edward E., Lawrence, Mass.; Curtis & Marble Machine Co., Worcester, Mass.; Davis & Furber Machine Co., North Andover, Mass.; Davis Mfg. Co., Frank, Pawtucket, R. I.; Dearborn Chemical Co., New York; D'Este Co., Julian, Boston; Dodge Mfg. Co., Boston; Du Pont de Nemours & Co., E. I., Wilmington, Del.

Eagle Oil & Supply Co., Boston; Eckstein & Co., Albert, New York; Eclipse Textile Devices, Inc., Elmira, N. Y.; Economy Fuse Mfg. Co., Chicago; Economy Lubricating Co., Charlestown, Mass.; Edison Storage Battery Co., Orange, N. J.; Electric Storage Battery Co., Philadelphia; Elk Fire Brick Co., Boston; Elliot & Hall, Worcester, Mass.; Ellison, Lewis M., Chicago; Elwell-Parker Electric Co., Cleveland, O.

Fafnir Bearing Co., New Britain, Conn.; Fairbanks, Morse & Co., Chicago; Fellows Gear Shaper Co., Springfield, Vt.; Field Co., William H., Boston; Fiske Brothers Refining Co., New York; Flexible Steel Lacing Co., Chicago; Forbes Lithograph Mfg. Co., Boston; Ford Co., J. B., Wyandotte, Mich.; Fournier & Lemoine, Linwood, Mass.; Foster Machine Co., Westfield, Mass.; Foxboro Co., Inc., Foxboro, Mass.

Gallaudet Aircraft Corp., East Greenwich, R. I.; Garlock Packing Co., Palmyra, N. Y.; General Electric Co., Boston; Georgia Railway & Power Co., Atlanta, Ga.; Gibby Engineering Co., East Boston, Mass.; Graton & Knight, Worcester, Mass.; Greene, Tweed & Co., New York; Grinnell Co., Providence, R. I.

Harnett Lubricating Co., Boston; Harris Oil Co., A. W., Providence, R. I.; Hetherington & Sons, Ltd., John, Boston; Hayes Pump & Machinery Co., Boston; Hopedale Mfg. Co., Milford, Mass.; Howard Bros. Mfg. Co., Worcester, Mass.; Hurricane Engineering Co. of Mass., Boston; Hussong Dyeing Machine Co., Groveville, N. J.; Hyatt Roller Bearing Co., Newark, N. J.

International Cotton Mills, Boston; International Engineering Wks., Inc., Framingham, Mass.; International Nickel Co., New York; International Salt Co., Inc., Scranton, Pa.; Ipswich Mills, Ipswich, Mass.

Jenkins Bros., New York; Johns-Manville, Inc. of Mass., Boston; Johnson & Bassett, Worcester, Mass.; Johnson & Co., Inc., Oliver, Providence, R. I.

Kaumagraph Co., New York; Keystone Lubricating Co., Philadelphia; Keystone Refractories Co., New York; King Refractories Co., Inc., Boston; Klauder Weldon Dyeing Machine Co., Bethayres, Pa.; Klipstein & Co., A., New York; Knott Apparatus Co., L. E., Cambridge, Mass.; Kwix Co., Boston.

La-Lo Chemical Co., Inc., Providence, R. I.; Lane & Brothers, W. T., Poughkeepsie, N. Y.; Lawrence & Co., Boston; Lawrence Leather Co., A. C., Boston; Lazenby & Co., F. A., Baltimore, Md.; Lead Lined Iron Pipe Co., Wakefield, Mass.; Leyland & Co., Thomas, Readville, Mass.; Link-Belt Co., Philadelphia and Chicago; Locke Regulator Co., Salem, Mass.

Macomb Machine Co., Boston; Macrodi Fibre Co., Woonsocket, R. I.; Manning, Maxwell & Moore, Inc., New York; Mason Regulator Co., Dorchester, Mass.; Masury-Young Co., Charlestown, Mass.; McLeod & Henry Co., Troy, N. Y.; Mercury Mfg. Co., Chicago; Merrimack Mfg. Co., Boston; Meyers, Jacob, Brooklyn, N. Y.; Monarch Soot Remover Co., Inc., Norfolk Downs, Mass.; Montello, V., Medford, Mass.; Morris & Co., Inc., Groveville, N. J.; Morse Chain Co., Ithaca, N. Y.; Mossberg Co., Frank, Attleboro, Mass.; Mossberg Pressed Steel Corp., Attleboro, Mass.

Nash Engineering Co., South Norwalk, Conn.; National Aniline & Chemical Co., Inc., New York; National Pipe Bending Co., New Haven, Conn.; National Shawmut Bank of Boston, Boston; Nelson Valve Co., Boston; New Bedford Textile School, New Bedford, Mass.; New England Spun Silk Corp., Brighton, Mass.; New York & New Jersey Lubricant Co., New York; Norma Co. of America, Long Island City, N. Y.

Oakley Chemical Co., New York; Oxweld Acetylene Co., Newark, N. J.

Pacific Mills, Lawrence, Mass.; Pairpoint Corp., New Bedford, Mass.; Parks & Woolson Machine Co., Springfield, Vt.; Parks-Cramer Co., Fitchburg, Mass.; Patterson Lubricating Co., Boston; Payne Co., F. S., Cambridge, Mass.; Peabody Engineering Corp., Boston; Perfection Grate & Supply Co., Springfield, Mass.; Perkins & Son, Inc., B. F., Holyoke, Mass.; Perkins Co., P. I., Boston; Permutit Co., New York; Philadelphia Drying Machinery Co., Philadelphia; Philadelphia Grease Mfg. Co., Philadelphia; Power Equipment Co., Boston; Proctor & Schwartz, Inc., Philadelphia.

Quigley Furnace Specialties Co., New York.

Racine Tool & Machine Co., Racine, Wis.; Reading Steel Casting Co., Inc., Bridgeport, Conn.; Reeves Pulley Co., Columbus, Ind.; Rhode Island Warp Stop Equipment Co., Pawtucket, R. I.; Robinson, John R., New York; Root Co., The, Bristol, Conn.; Ruggles-Klingemann Mfg. Co., Boston.

S. K. F. Industries, Inc., New York; Sarco Co., Inc., New York; Saurer, Inc., Adolph, New York; Schaeffer & Budenberg Mfg. Co., Brooklyn, N. Y.; Schumaker-Santry Co., Boston; Scott & Co., Henry L., Providence, R. I.; Scott & Williams, Inc., New York; Sellers & Co., Inc., William, Philadelphia; Seydel Chemical Co., New York; Shambow Shuttle Co., Woonsocket, R. I.; Shawmut Engineering Co., Boston; Sherwin Williams Co., Cleveland, O.; Shumway Co., Franklin P., Boston; Signode System, Inc., Boston; Sirrine & Co., J. E., Greenville, S. C.; Southern Textile Machinery Co., Paducah, Ky.; Stack Heater Co., Boston; Stafford Co., Readville, Mass.; Starkweather & Broadhurst, Inc., Boston; Steel Heddle Mfg. Co., Philadelphia; Stevens Co., Geo. E., Boston; Stewart-Sayres Co., New York; Stowe & Woodward Co., Newton Upper Falls, Mass.; Superheater Co., New York; Suter, Alfred, New York.

Tabulating Machine Co., Boston; Tagliabue Mfg. Co., C. J., Brooklyn, N. Y.; Talcott, Inc., W. O. & M. W., Providence, R. I.; Taylor Instrument Companies, Rochester, N. Y.; Tension Co., L. V. B., New Bedford, Mass.; Texas Co., New York; Textile-Finishing Machinery Co., Providence, R. I.; Tidewater Oil Sales Corp., New York; Tolhurst Machine Co., Troy, N. Y.; Tracy Co., Lewis E., Boston; Transmission Ball Bearing Co., Buffalo, N. Y.

U. S. Air Compressor Co., Boston; U. S. Gutta Percha Paint Co., Providence, R. I.; Universal Winding Co., Boston.

Valve Engineering Co., Cambridge, Mass.; Van Noorden & Co., E., Boston; Veeder Mfg. Co., Hartford, Conn.

Wadsworth, Howland & Co., Inc., Boston; Waite & Davey Co., Inc., Long Island City, N. Y.; Walworth Mfg. Co., Boston; Ward's Sons Co., Edgar T., Boston; Wardwell Braiding Machine Co., Central Falls, R. I.; Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa., and Boston; Westinghouse Lamp Co., New York; Wheeler Condenser & Engineering Co., Boston; Whitinsville Spinning Ring Co., Whitinsville, Mass.; Whittenton Mfg. Co., New Bedford, Mass.; Williams Valve Co., D. T., Cincinnati; Williams Co., J. H., Millbury, Mass.; Wing & Evans, Inc., Boston; Woods Machine Co., S. A., Boston; Woonsocket Napping Machinery Co., Woonsocket, R. I.

Zinsser & Co., Hastings-on-Hudson, N. Y.

THE PERSONAL PAGE

Col. J. J. Shute, former president of the Liverpool Cotton Exchange, was entertained at luncheon at Young's Hotel in Boston on Wednesday of last week by President Robert Amory, Treasurer W. Irving Bullard, and Secretary Harry C. Meserve of the National Association of Cotton Manufacturers and a number of prominent cotton manufacturers and merchants. Col. Shute represented the Liverpool Exchange at the dedication of the new building of the New York Cotton Exchange. He gave an interesting informal talk at the Boston luncheon on European political and business conditions, expressing the hope that the reparations problem would be solved before the end of the year and the belief that this settlement would be followed by a marked revival of business in England and the greater part of Europe.

C. R. Whitehead, president of the Wabasso Cotton Co., Ltd., Three Rivers, Quebec, and the Shawinigan Cotton Co., Ltd., Shawinigan Falls, Quebec, is in England for several weeks on a business trip.

Dwight L. Armstrong, Lancaster, Pa., won the low gross score prize in the final round of play for the championship of the Carpet Manufacturers' Golf Association on July 26, at St. Martins, covering the course in 81 strokes; Zimmer Platt, Philadelphia, 1922 champion of the association, was one stroke above this total. M. H. Masland and Richard Hirst, Philadelphians, H. F. Wolf and George Nichols, New Yorkers, were all tied for the low net score, the four turning in 77 cards. D. L. Armstrong, medalist in the final round, defeating Z. Platt after a close match, will have his name engraved on the Matthew J. Whittall Cup, presented by Percy Whittall in memory of his father the late M. J. Whittall.

Edward L. Shaw has been elected president of the Glendale Elastic Fabrics Co., Easthampton, Mass., to succeed the late William G. Bassett, Northampton, Mass. He has also succeeded him as president of the First National Bank, Northampton.

Leroy Springs, president of the Eureka Cotton Mill and Springstein Mills of Chester, S. C., was elected a vice-president and director of the newly organized Columbia (S. C.) National Bank. Mr. Springs has just returned from a business trip to New York.

John C. Rankin, president of the Avon Mills, Gastonia, N. C., with Mrs. Rankin, is spending some time at Palmetto Lodge, Wrightsville Beach, N. C.

Charles E. Leippe, Reading, Pa., retiring from the textile business, following the recent sale of his local mill, operated under the name of the Reading Knitting Mill, to Frank Y. Kitzmiller, was tendered a banquet by local textile manufacturers on August 2.

Robert S. Mebane, president of the Republic Cotton Mills of Great Falls, S. C., with Mrs. Mebane and small daughter have gone to Blowing Rock, N. C. Mr. Mebane will spend a portion of his time in Great Falls, while Mrs. Mebane and daughter will remain in Blowing Rock until September.

George K. Morris, of A. V. Morris & Sons, Amsterdam, N. Y., was last week elected a member of the board of governors of the Hamilton County Adirondack Club at Lake Pleasant during the annual meeting of the stockholders. The club is maintained by prominent up-state manufacturers.

B. E. Geer, president of the Judson Mills, Greenville, S. C., has been elected a vice-president of the newly organized Columbia (S. C.) National Bank and W. S. Montgomery, president of the Spartan Mills, Spartanburg, S. C., one of the directors.

Arthur F. Whitin, president and treasurer of Whitin Bros., Inc., Whitinsville, Mass., left on July 26 for a two months' vacation at his camp at Bisbee Lake, Herkimer County, N. Y.

L. W. Robert, Jr., well known Atlanta architect, designer of many of the largest cotton mills in the South, has returned to his offices after an extended business trip to New York and other eastern industrial centers.

E. B. Benjamin, vice-president and treasurer of the Maginnis Cotton Mills, New Orleans, La., has sailed for Europe.

William H. Folwell, vice-president of Folwell Bro. & Company, Inc., Philadelphia, was elected a vice-president of the Pennsylvania Manufacturers Association and vice-president and director of the Pennsylvania Manufacturers' Association Casualty Insurance Company and the Pennsylvania Manufacturers Association Fire Insurance Company. H. W. Hartman of Follmer, Clogg & Co., Lancaster, was chosen as a new director of the Casualty Company.

Joseph M. Jackson, treasurer of the Equinox Mill, Anderson, S. C., and the Dixie Cotton Mills, LaGrange, Ga., has been elected treasurer of the West Point (Ga.) Mfg. Co., and the Anchor Duck Mills, Rome, Ga., succeeding the late Horace S. Sears of Boston. Mr. Jackson also succeeds the latter as treasurer of the Chattahoochee Valley Railroad.

Leroy Earle Beard, secretary and treasurer of the Glenn-Lowry Mfg. Co. of Whitmire, S. C., and Miss Mary Moore Hines of Seneca, S. C., will be married on Aug. 30.

Arnold S. Hatch, secretary and assistant treasurer of the Fuld & Hatch Knitting Co., Albany, N. Y., with his family, will spend the remainder of the summer at Bluff Point, Mass.

Comer Howell who recently completed a course in textiles at New Bedford, Mass., is now connected with the Bibb Mfg. Co., Macon, Ga. Mr. Howell is a nephew of the late John D. Comer, 2d, vice-president of the company, who died a short time ago.

Wilbur Houseman of the Standard Machine Co., and J. O. V. Stetten of the Philadelphia Metal Drying Form Co., have just completed a 2,500-mile business trip by auto, visiting Pittsburgh, Cleveland, Toledo, Detroit, Fort Huron, crossing over into Canada at this point, visiting London, Clinton, Paris, Hamilton, Guelph and Toronto, coming back into United States at Niagara Falls and working their way back to Philadelphia through New York State. They report business conditions are generally better in Canada than on this side of the line.

Walter M. Lamont, agent of the Wood Worsted Mill, recently won the members' pennant in golf at the Merrimack Valley Country Club.

Henry R. Hallowell has been named as successor to the late J. W. Donovan to take charge of the cotton brokerage office of George H. McFadden & Bro. at New Bedford, Mass. Kimball A. Baker will be associated with Mr. Hallowell in the capacity of salesman.

William Lloyd Baily, Jr., Chicago manager for Joshua L. Baily & Co., was married July 18 at Winnetka, Ill. His bride is the former Mrs. Sarah Shepler, a widow, who is a native of Alabama. Mr. Baily served in France during the war as lieutenant of field artillery; he saw action in a number of important engagements and was wounded twice; later serving with the army of occupation in Germany.

F. Linton has taken the position of designer for the Atlantic Mills, Stottville, N. Y. Mr. Linton came from Canada.

Stanley J. Wrubel, who has been superintendent of the worsted yarn department of the Waucantuck Mills, Uxbridge, Mass., for a number of years, has severed his connections with that company to accept a position as manager of the Wyoming Worsted Co., Tunkhannock, Pa.

George Fish, general manager of the Fort Mills (S. C.) Mfg. Co., who has been in Europe for the last several months, is expected home next week.

Walter Scott has taken the position as superintendent and designer for the Daniels Mfg. Co., E. Brookfield, Mass. Mr. Scott was formerly employed at Chambersburg, Pa.

Announcement is made of the marriage of R. Rhines, superintendent of the Mohawk Glove Corp., Fultonville, N. Y., to Miss Marion Hinds, of Johnstown, at Pittsfield, Mass.

Charles H. Goodroe tendered his resignation as superintendent of the Lafayette (Ala.) Cotton Mills, Inc., and is now holding a similar position in the Banning (Ga.) Cotton Mills.

John Proctor is now superintendent of the Martel Mills, Inc., Lexington, S. C. He was promoted to this position from that of overseer of dyeing.

Marcus Batson is now superintendent of the Opelika (Ala.) Cotton Mills.

T. P. Morris, superintendent of the Ridge Mills, Inc., Gastonia, N. C., and H. M. Childres, superintendent of the Pinckney Mills, Inc., Gastonia, N. C., spent last week in Chattanooga, Tenn., where they visited different mills.

Malcom Gilfillan is now superintendent of the Alabama Cotton Mills, Speigner, Ala., succeeding L. C. Langston, resigned.

Samuel A. Goodfellow, for almost 15 years overseer of weaving in the Taber Mill, Inc., New Bedford, Mass., has severed his connection with that plant and assumed similar duties with the Newmarket (N. H.) Mfg. Co.

George H. Redmond has tendered his resignation as superintendent of the Griffin (Ga.) Mfg. Co.

J. W. Jolly is now superintendent of the Yazoo Yarn Mill, Yazoo City, Miss.

Frank Courcy, overseer of spinning for the last six years for the Merrimack Woolen Corp., Dracut, Mass., has severed his connections with that company.

Frank Smith has returned to Lisbon Centre, Me., to assume the duties of overseer of weaving for the Farnsworth Co.

Patrick Ryan has taken the position as overseer of carding for Grant S. Kelley, Inc., Smiths, Mass., succeeding Arthur Brooke, resigned.

A banquet was given recently by the heads of the various departments of the Beacon Mfg. Co., New Bedford, Mass., in honor of Ernest W. Kerwin, superintendent of the finishing department, who is to be married soon.

Robert Goften, overseer of dyeing for the Slingsby Mfg. Co., Brantford, Ont., Can., has severed his connections with that company.

Montgomery (Ala.) Cotton Mfg. Co. has named D. D. Jones as overseer of carding. Mr. Jones comes from the Enterprise (Ala.) Cotton Mills.

Montgomery (Ala.) Cotton Mfg. Co. has named S. C. Kitchen as boss weaver to succeed W. R. Cook, who has accepted the superintendency of the Sunset Textile Mills, No. 2, Selma, Ala.

Henrietta Mills, Caroleen, N. C., has engaged J. H. Edwards as overseer of carding. Mr. Edwards was formerly with the Imperial Cotton Mills Co., Los Angeles, Cal.

Fred E. Alfred has been promoted to overseer of spinning at the Leward Cotton Mills, Inc., Worthville, N. C.

Roberta Mfg. Co., Concord, N. C., has named J. A. Gray as night overseer of carding. Mr. Gray comes from the Gibson Mfg. Co., Concord.

Cabarrus Cotton Mills, Concord, N. C., has named W. M. Canup as night overseer of carding to succeed Dave Colet, who returns to day operations. Mr. Canup is from the Brancord Mfg. Co., Inc., Concord.

James Leach, formerly connected with the Cabot Mfg. Co., Brunswick, Me., is now in charge of weaving at the Granite Mills, Fall River, Mass. Previously Mr. Leach held the position as overseer of cotton and silk weaving in the plant of the Newmarket Mfg. Co., Newmarket, N. H.

George Garvey has taken the position as overseer of knitting for the Broadalbin (N. Y.) Knitting Co.

A. L. Haney, overseer of weaving for the Brookford (N. C.) Mills Co., has resigned to accept a similar position with the Morven Cotton Mills, Durham, N. C. He will be succeeded by R. C. Simpson, formerly with the F. W. Poe Mfg. Co., Greenville, S. C.

A. P. Foster is now overseer of spinning at the plant of Amos Abbott & Co., Inc., Dexter, Me.

POWER AND ENGINEERING SECTION

Power, Steam and Water Use in Processes

Results of Tests to Show Consumption in Singeing, Crabbing, Carbonizing, Fulling, Washing, Shearing, Pressing and Dyeing Woolen and Worsted Goods—Data for Mills and Engineers That Will Be Useful When Planning New Layouts or Improving Existing Installations

By *James A. Campbell*

DYEING and finishing the cloth output of the woolen and worsted industries of the United States represent a tremendous demand for power, process steam and water, but until recent years the tendency in the majority of textile mills was to consider the consumption of these items as a matter of small moment. The only interest of mill men seems to have been to have plenty.

More recently it has become recognized that power, process steam and water represent cost going into the manufacture of goods just as the yarns composing the warp and filling represent costs, and that waste in these items is reflected in smaller profits. It was not so easy to determine what these wastes amounted to as in the case of yarns, owing to the waste being invisible, and also on account of a lack of recorded information and standards with which results could be compared. The object of this article is to make a beginning in the remedying of this deficiency. Figures given are the result of tests which the writer has conducted personally.

There are so many different fabrics manufactured, each calling for different processes of finishing, that it would be an almost impossible task to combine in one paper figures covering all of them. At this time it is intended to give figures resulting from tests in processing several representative woolen and worsted fabrics. The types of fabric are specified, with other details, and the horsepower, steam and water used are shown.

Different finishers may use other processes in the work of finishing certain of the goods, it is true, but this paper will show facts regarding representative processes which are of interest to engineers and will be useful when planning new layouts or improving existing installations. The processes on which the results of tests are given are singeing, crabbing, carbonizing, fulling, washing, shearing, pressing and dyeing. The goods are sent from the gray room to the finishing room, where they are put through the finishing processes.

Folding and Singeing

Folders are used for the following purpose: The goods are received from the inspecting room in loose rolls with one piece, averaging about 60 yards of cloth, in each roll. The pieces from several rolls are run through the folder, being sewed together until a set of 12 pieces are in one continuous length. These sets are folded on to trucks and run through the singer.

Singers are used for singeing off the loose fibers which project from the cloth. The flame used passes into the grooves in ribbed cloth and singes the loose ends. Woolen goods are seldom singed.

The power requirements for folding and singeing are small. The folder and a three-burner singer require approximately 2.4 h.p., the readings for the singer being 1.7 and for the folder 0.7. Water is used for cooling the rolls, and on the above type of singer 20 gallons per minute were used on the six rolls. This will vary, however, with the initial temperature of the cooling water. Singers with more burners require more water in proportion.

The gas burned averages 25 cubic feet per 100 yards of goods singed. At the prevailing cost of $1.30 per thousand cubic feet of gas in the city where the writer is located, the cost of gas in singeing 100 yards is 3.25c. The folding and singeing operation per set required 30 minutes. This time includes folding, sewing, booking, singeing and moving trucks. The average singer production was 88 yards per minute on 10 to 12 ounce goods, and 110 yards per minute on eight ounce goods.

Crabbing Machines

Crabbing machines are used to fix the weave in the cloth, limit shrinkage and smooth out wrinkles. After passing through these machines, the warp and filling have as near a permanent set as it is possible to get.

There are several different types of crabbing machines built. The machines on which these tests were made were of the continuous type, having six bowls of boiling water and one bowl of cold water. Each bowl requires 440 gallons of water to fill. Water has to be added to the first bowl while running, owing to the cloth entering in a dry condition. The other hot water bowls require make-up water occasionally. The final or cold water bowl has a spray of cold water on its squeeze rolls, and this extra water passes out through the overflow. The production in this type of machine varies with the class of goods crabbed. The tests were run with 54-inch dress goods which averaged nine ounces. The following data was taken from the process:

Initial water required.....3,080 gals.
Initial temperature of water.....50 deg. F.
Make-up water required, hot.30 gals. per hr.
Make-up water required, cold, 120 gals. per hr.
Steam pressure .....50 lbs.
Steam required to boil 6 bowls.....3,750 lbs.
Steam required to keep boiling, 10 lbs. per min.
Speed of cloth in machine..19 yds. per min.
Pressure on rolls, 6 turns on springs on hot squeeze
Pressure on rolls, 7 turns on springs on cold squeeze
Watts input 1,750
Watts output 1,540
H.P. required to run machine.....2.06
Weight of goods leaving crab.....17.7 ozs.
Weight of goods, dry..... 9.75 ozs.
Per cent. of moisture.....81.5 per cent.

This type of machine required 6 h.p. to start, but this power demand is only momentary.

Table 1. Washer Tests

Type of Cloth	Weight Grease	Weight Finished	No. Of Strings	Total Yards	Watts Input Mach. Empty	Watts Input Max. Load	H.P. Required Soaping	H.P. Required Hot Water	H.P. Required Cold Water
Cloakings	33 oz.	25 oz.	5	228	380	5500	4.125	6.14	6.5
Woolen Dress Goods	14 oz.	12 oz.	4	265	380	4000	3.13	4.48	4.72
Worsted Dress Goods	10 oz.	9 oz.	8	484	380	3600	2.95	3.65	3.86

Table 2. Fulling Data.

Type of Cloth	Weight, Oz. In Grease	Weight, Oz. Finished	Weights on Traps	No. of Cuts	Total Yards	Wgt. of Goods in Process	How Run	Watts Input	Watts Output	H.P.
Woolen Dress Goods	14	12	16 lbs. each side	4	242	210 lbs.	2 cuts on each side	4800	4220	5.66
Cloakings	33	25	32 lbs. gear side	2	91	186 lbs	Run on gear side only	5150	4540	6.08
Overcoatings	36	32	48 lbs. gear side	1 1-12 oz leader	40 55	92 lbs 41 lbs	Run on gear side only	6250	5500	7.37

Washing Process

The washing process follows the crabbing of worsted goods; with woolen goods it follows the fulling process. Its object is to clean and scour the cloth thoroughly. The cloth is put into the washers in strings. Eight to 12 strings of 10 to 12 ounce goods, each string approximately 60 yards in length, are usually put into the machine at one time. With heavier goods fewer strings are put in.

Details of the washing process and the water used for worsted dress goods are as follows:

1. Washing, warm water, 750 gals. at 120 degs. F.
2. Soaping.
3. Washing, warm water, 6,000 gals.
4. Washing, cold water, 750 gals.
5. Steam used per set, 3,690 lb.

The total average gallons of water used per set was 7500. The flow of water averaged 150 gallons per minute.

Process for Woolens

The process for woolen goods is slightly different. Details with water requirements are as follows:

1. Soaping.
2. Warm water wash, 2,250 gals. at 110 to 120 deg. F.
3. Second soaping.
4. Warm water wash, 4,500 gals. at 110 to 120 deg. F.
5. Cold water wash, 4,500 gals.
6. Sour bath.
7. Cold water wash, 1,500 gals.
8. Steam used per charge in washer, 3,690 lb.

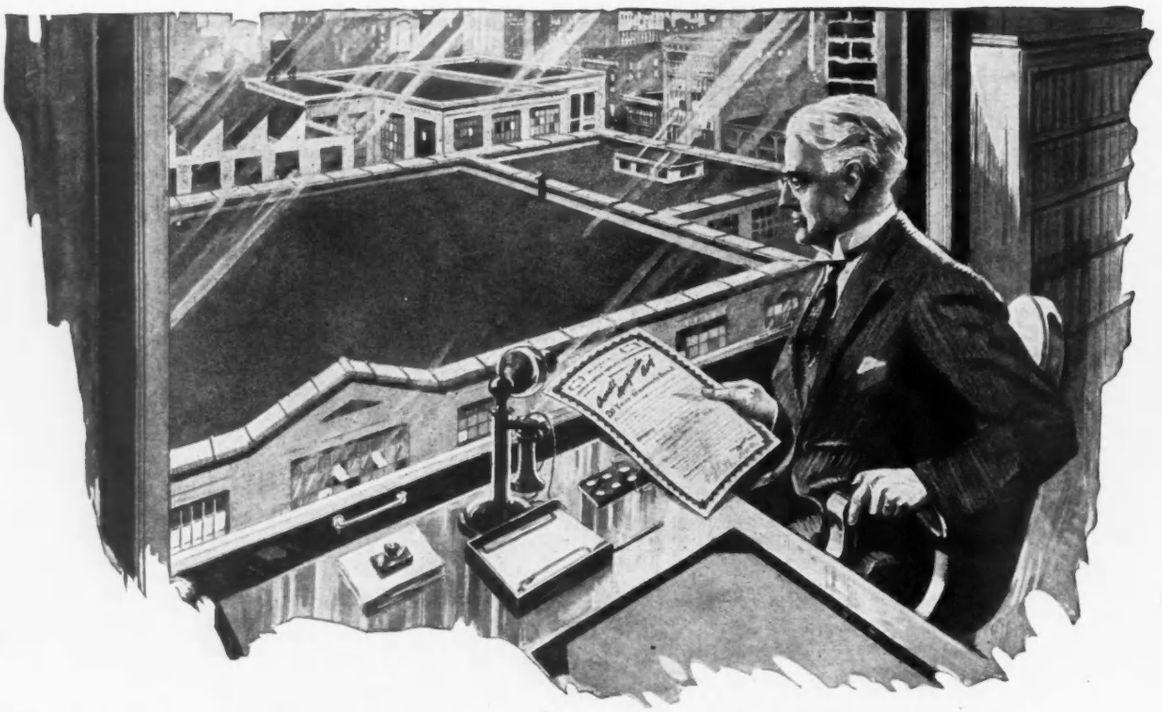
The total average gallons of water per charge was 12,750. The power requirements are shown in Table 1.

Fulling Requirements

Goods are processed in fulling mills to get shrinkage in width and length so that the weight per yard will conform to the cloth specifications. Fulling is also used to felt cloths, giving a firmer fabric, and to get certain close finishes. The tests were made on a fulling mill with a maximum capacity of four pieces, each 60 yards in length, weighing 16 ounces per yard. The different classes of goods run are given in the test data at Table 2, with the different weights and other details. The bottom rolls are driven at a speed of 120 revolutions per minute. The goods are increased in weight by the addition of fulling soap in solution, about 120 pounds of this solution being used to each lot of goods processed. Woolen goods were used exclusively in these tests.

Dyeing Data

The following particulars show con-



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Back of Barrett Specification Roofs stand these 4 factors:

1. *The Barrett Specification*—a formula for flat (or nearly flat) roof construction drawn up by Barrett technical men with the cooperation of leading architects, engineers and contractors. "The best built-up roof that can be constructed"—this was their aim. Time has proved that they achieved it.
2. *Standardized materials*—The Barrett Specification rigidly prescribes the quality and quantity of materials: the necessary number of layers of Specification Felt, the requisite amount of Barrett Specification Pitch, the top coat of pitch *poured* (not mopped) and finally the wearing surface of firmly embedded gravel or slag, so essential to right roof construction.
3. *The man who lays the roof*—Only a man with an earned reputation for good work can qualify to lay a Barrett Specification Roof—can obtain the 20-year bond for the owner of the building.
4. *The Barrett Inspection Service*—Highly trained Barrett technical men are on the job to see that the Barrett Specification is followed in every detail. Only after their O.K. has been received is the Bond issued.

Investing in a definite period of guaranteed service is the modern, efficient way of buying roofs. And that means a Barrett Specification Roof.

There are two types of Barrett Specification Roofs—Type "AA," bonded for 20 years; Type "A," bonded for 10 years. Both are built of the same high-grade materials, the only difference being in the quantity used.

We will gladly and promptly send you copies of the Barrett Specification.

The Barrett Company

40 RECTOR STREET — NEW YORK CITY

THE BARRETT COMPANY, LIMITED
2021 St. Hubert St., Montreal, Que., Canada

Barrett Specification Roofs Bonded for 20 and 10 Years

ditions of the dyeing tests that were conducted:

Kettles, 8' 0" x 7' 4" x 5' 10" deep—12 strings.
Drive, 3 H.P. motor; speed of drum, 72 R.P.M.
Cloth—1 set, 12 pieces, 740 yds., 510 lb.
Weight, 11 oz. per yd.
Width, 54".
Steam pressure, 55 lb.
Water to fill kettle, 1,400 gals.
Temperature of water, 50 deg. F.
Steam required in boiling operation, 1,980 lb.
Water required in cooling to 100 deg. F., 3,000 gals.
Steam required for dyeing, 1,600 lb.
Total steam used per set, 3,580 lb.
Water required for cooling after dyeing, 5,600 gals.
Total water used, 1,400 + 3,000 + 5,600 = 10,000 gals.

The chart at Fig. 1 shows clearly the steam used in the operation of dyeing. It will be noticed that steam is only used for two hours and 25 minutes during the total process, which requires five hours. To insure a start at 7 a. m., the kettles are filled by an operative coming in early. This also reduces the peak demand for water, which occurs at 7 a. m. The total steam required for sets of specified goods tested averaged 3580 pounds. The power requirements averaged 1.5 h.p.

Speck Dyeing

The tests on speck dyeing were carried out on an eight-string washing machine. The bottom roll ran at a speed of 68 revolutions per minute, which gave a cloth speed of 110 yards per minute.

Wetting out, 20 minutes, average H.P...3.57
Speck dyeing, 30 minutes, average H.P..4.12
Washing 4.5
Average H.P. requirements.....4.06

The shearing machines tested were 66½ inch double woolen shears. The driving pulleys were run at 400 r.p.m., which gave a cloth speed of 20 yards per minute. Results are given at Table 3.

Pressing Cloth

The rotary type of cloth press was used for the tests. The driving pulleys on these machines were run 250 r.p.m., giving a machine production of 6½ yards per minute. The horsepower requirements will vary, however, depending upon the pressure applied. The results are given at Table 4. The pressure is put on the cloth by means of a wheel graduated from 0 to 32. The figure under the column "Press" show where press was set for the test. Steam is delivered to the cylinder by a half-inch pipe at a pressure of 60 pounds per square inch. The steam consumption of these machines is small.

Table 3. Power Consumption of Shear.

Goods	Weight per yard	Watts Input	Watts Output	H.P.
Pile Fabric	17 oz	1750	1400	1.87
Same Fabric	1 revolver by-passed	1375	1100	1.47
Worsted Dress Goods	10 oz	1640	1344	1.80

The carbonizing process is used to remove vegetable impurities from

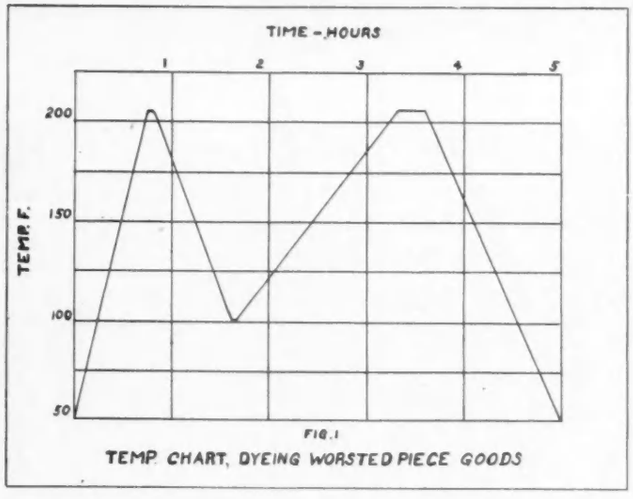


FIG. 1

TEMP. CHART, DYEING WORSTED PIECE GOODS

woolen goods. The machine tested was of the three-unit type, with a capacity of 234 pounds of goods per hour. The fans and vacuum pump are driven from the main shaft of the machine. The machine is driven by a 15 h.p. motor, 1200 r.p.m., with a chain drive to main shaft. The fans and pump run at constant speed, but a variable speed drive is installed for the tank, dryer, etc. The following readings were taken:

Cloth speed .....6 yds. per min.
Watts input 7,500
Watts output 6,150
Horsepower 8.37
Dryer .....210 deg. F.
Carbonizer .....260 deg. F.

The goods leaving the vacuum extractor contain on an average 70 per cent. moisture. After leaving the carbonizer the goods are given a dry fulling until the carbonized matter is thoroughly broken up. They are then neutralized in a washing machine.

Double Acting Napper

The purpose of napping is to provide a covered or napped face on woolen goods. These machines are used principally for heavy coatings. The horsepower varies considerably. Goods requiring a light napped face will take about 2 h.p., while goods requiring a heavy napped face take up to 6 h.p. on the first runs. The speed of the pile and counter pile rolls are changed during the process, and this causes a variation in horsepower also. In starting, the horsepower runs up to 15, but this is only for a few seconds. The ratings were taken from an 80 inch, 36 roll double acting napper.

Conditioning Machines

Conditioning machines are being used more and more in finishing textiles and fill a useful purpose. They restore the natural moisture of the fibers, improve the handle, and due to the even cooling of the cloth prevent unevenness in shade. The power requirements are low, a 1 h.p. motor being sufficient to operate one machine. The quantity of water used in this machine is small. Usually a one-half inch pipe line is installed.

Table 4. Power Consumption of Press.

Dress Goods	Weight Per Yard	Press	Watts Input	Watts Output	H.P.
Woolen	11 oz.	16	1375	1100	1.47
Worsted	10 oz.	18	2000	1640	2.2

Textile fabrics vary considerably in weight, and there is a wide variation in power required due to this difference. Again the machines are operated in different ways, according to the fabric being processed. For this reason it is not intended that the results given in this paper shall be considered to represent standard practice. They represent good average practice, and it is hoped that they will be useful in serving as a reference to mills and to engineers, and as a starting point for further investigation. However, we shall perhaps never find it possible to arrive at figures representing standard consumption of power, water and process steam in dyeing and finishing until we all decide to wear standardized fabrics, woven and finished exactly the same, and the probability of this ever taking place is too remote to be considered.

Care of Shafts, Belts and Pulleys

Duties That Make Up the Oiler's Job—Detecting Unusual Sounds and Movements

THE man who is employed as shafting oiler in a mill really holds a position of much responsibility and importance, though rarely is he given a corresponding status. Consider for a moment the troubles that might arise, with the attendant loss of production, should this man fail to do his work properly. Consider the machinery that might be damaged and the lives that might be endangered should an accident result due to the failure of this man to report defective pulleys or shafting. Realizing, then, the importance of employing the best man possible for this work, let us ascertain what are the personal qualifications that mark the efficient and desirable oiler.

Qualifications for Work

He should be preferably a young man, never an old man. An oiler must frequently climb ladders and stagings, crawl under shafts and between belts, often when they are in motion, in order to care for hot boxes or to look for other trouble. The more agile the oiler and the more able he is to climb, the more attention will the equipment under his care receive.

He should have normal hearing and normal vision; these in order to detect unusual and suspicious sounds, and to observe unusual movements in pulleys and shafting. He should also have a keen nose, quick to scent the odor of hot oil, that first indication of a heated bearing. He should be a man of good judgment, capable of making quick decisions in emergencies. He should be dependable and faithful to his job.

The man who day after day oils the same shafting, observes the same pulleys and the same belts, will very quickly, if he be the right kind of a man, notice any slight change either in appearance or sound, changes which the inexperienced observer or a person not familiar with that particular section of transmission would fail to see. And as a rule most accidents to transmission equipment give some warning before they occur, either by means of an unusual sound or movement. If these are noted in time serious damage to machinery and injury to employes can be averted.

Duties of Oiler

The duties of the shafting oiler, while they may be many, depending upon the amount of transmission under his care, may be placed in two groups. First, he must oil the bearings, and second, he must keep the hangers, pulleys and shafting clean. Too often the oiling part is faithfully done, but the cleaning is neglected. In no other kind of industry does the power transmission get so dirty or require so much cleaning as in textile manufacturing. Therefore, this latter feature is all important.

Bearings may be lubricated in a number of ways. The bearing may be of plain type, that is, not ring oiling. In this case the lubricating agent will be either oil, non-fluid oil, or grease. It is not the purpose of this article to discuss the relative merits of oil and grease. Each has its advocates, and there is much to be said in favor of each. If the bearing is lubricated with grease, it may be simply laid on top of the bearing shell and over the lubricating hole. This method, which is quite common in mills, is unsightly, wasteful and expensive in that a certain amount of heat must develop to cause the grease to flow to the bearing.

The grease may be supplied through the medium of some form of compression grease cup. A form of cup recently put on the market has a pin

Before you paint

Read these astonishing facts

ON this page is shown one of the most amazing paint experiments ever made. It explains why Barreled Sunlight is being used today by leading textile plants throughout the country.

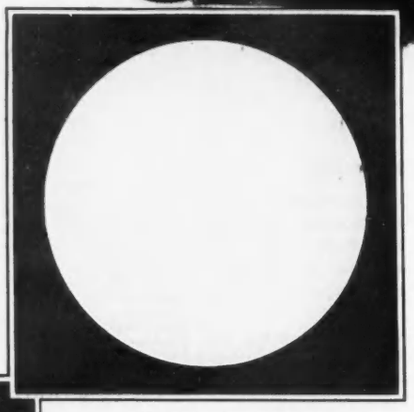
Three types of paint were examined and photographed through a powerful microscope.

Note the difference!

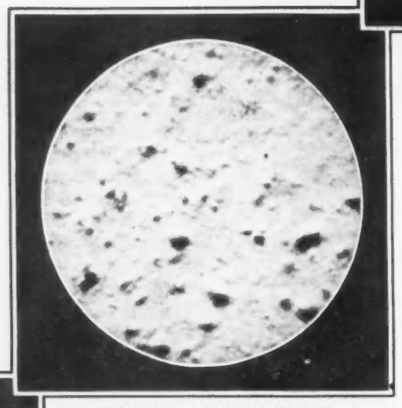
These photographs show clearly why the rough, porous surface of most white paints collects dirt—and why interiors painted with Barreled Sunlight *remain clean and white without frequent repainting.*

The surface of Barreled Sunlight is so smooth that it resists the smallest particles of dust and dirt! Even after years of service, it can be washed clean like white tile.

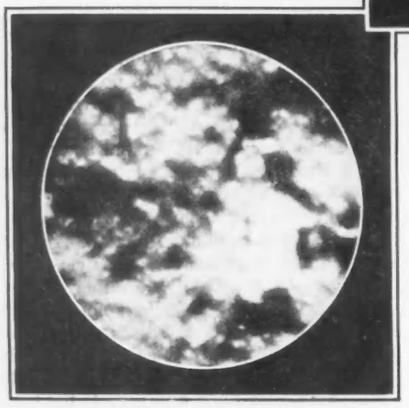
Barreled Sunlight produces a lustrous, light-reflecting finish without the glare of ordinary gloss paints. Made by our exclusive Rice Process, which removes the yellowing tendency from the oil, it is guaranteed to remain white longer than any gloss paint or enamel, domestic or foreign, applied under the same conditions.



BARRELED SUNLIGHT



EGG-SHELL FINISH PAINT



FLAT FINISH PAINT

These illustrations show 3 paint surfaces as they were photographed through a powerful microscope.

Smooth enough to the naked eye—notice how rough and porous flat or egg-shell finish paint is when magnified! *The surface of Barreled Sunlight is smooth and unbroken, even under the microscope.*

Flows freely and may be applied by brush or spray. Will not chip or scale. Where more than one coat is required, use Barreled Sunlight Undercoat. Sold in barrels and cans. Send for our booklet, "More Light."

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Factory and Main Offices
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Chicago—659 Washington Blvd.
San Francisco—38 O'Farrell Street
And 100 other distributing points in U. S. A.

Save the surface and you save all

Barreled Sunlight

THE RICE PROCESS WHITE

projecting through the hollow stem of the cup and resting on the shaft (see Fig. 1). When the shaft is in motion there is just enough vibration transmitted up through the pin into the grease to cause it to be fed to the bearing. This type gives good results; it uses the so-called non-fluid oil. It is claimed that one of these grease cups, as, for instance, the four-ounce size, will run for a year without refilling.

If oil is used it may be supplied in several ways. A common procedure is for the oiler to inject a small amount of oil once or twice a day by way of the oil holes. A feature of this method is that it brings the oiler to each bearing at regular intervals and any trouble may be detected before it becomes serious.

The "bottle oilers" are a very efficient means of feeding oil to a bearing as needed, and surely use less oil than the first method. This oiler uses a pin working in a tube, the pin resting on the shaft, and through vibration allowing a very small amount of oil to pass to the shaft from the air-tight oil cup. When the shaft is not in motion the oil does not feed. A four-ounce supply of oil lasts several months.

With both the grease cup and the oil cup or bottle there is less tendency for the oil to be thrown off by the shaft, since the flow is uniform and of reduced amount. Sometimes on large journals a sight feed gravity oil cup of regular pattern is used.

It is the oiler's duty then, if the bearings are oiled one or more times daily by hand, to do this work systematically and faithfully, making sure that the oil gets into the oil holes and not all over the shell, as is too often the case. For overhead shafting a long pole, with an oil pump at the lower end, from which a brass pipe runs up the pole and ends in a curved nozzle, is most convenient. If cups for grease or oil are used they should be filled when necessary. Care must be taken that the cups do not become loose and fall. Instances are known where employes have been painfully injured by the cups falling and striking them upon the head,

Oil on the Floor

The air in mills always contains a considerable amount of fiber, the amount depending on the processes involved and the quality of material used. This fiber collects on the hangers, on the bearings proper, and on the cast-iron drip pans attached to the hangers. The oil dropping from the bearing collects in the drip pan, and then by force of capillary attraction creeps up and over the edge of the pan, thence down the outside of the pan, and finally appears as a drop at the bolt head where the pan is attached. From there it drops to the floor, upon any stock that may be piled at that point, or upon trucks and boxes. Oil will frequently appear on the shaft just outside the bearing, particularly when the shaft is not in motion. On starting, this oil will be thrown off and upon the floor.

Stress is laid upon this throwing of oil on the floor because it has caused many falls by employes, some of these falls causing permanent injuries. The shafting oiler, therefore, should consider it an important part of his job to keep the oil from reaching the floor. This means that the hanger drips should be wiped often, the frequency depending upon the rapidity with which the oil accumulates. The shafting should be regularly wiped with a piece of iron well wrapped with cloth, bent to curve over the shaft and attached to a pole.

In spite of an oiler's best efforts some bearings will throw oil. In such cases large tin drip pans are made with projecting wings on each side so bent as to catch any oil that is thrown off. All drip pans should be regularly emptied, the oil being put through a good type of filter and then used again.

Hot Bearings

More or less of an oiler's time is generally given to trying to cool down a hot bearing. A bearing will heat from various causes, such as for want of oil, grit of some kind in the oil, too tight belts, a scored shaft, shafting out of line, a loose coupling adjacent to the box, a broken shaft, or a box where the babbitt has become so worn that the shaft is resting on the iron shell. The want of oil may result from sheer neglect or from the oil holes becoming clogged.

If when a bearing becomes hot the shafting can be stopped and the cause of the trouble ascertained and overcome, so much the better. But usually it must be kept running until noon or night. The problem then is to cool it down, or at least to prevent it from becoming any hotter. An extra amount of oil supplied will sometimes do this if the cause is not extreme.

In emergency cases the application of ice will often enable the shafting to be kept running. A good cooling agent is the specially prepared mica-flake, mixed with oil in the proportion of three-fourths of an ounce to a gallon. This combination is guaranteed to reduce the friction by 25 per cent. at least, and will easily take care of most hot bearings.

Frequent causes of hot bearings are too tight belts. Frequently frame belts are put on so tightly that they bend the shaft. When the shafting is in motion this causes a combined twisting and bending moment of force which sets up tremendous stresses, the results of which are broken or badly bent shafts, badly worn bearings and heavy frictional power losses. Belts should be wide enough to carry their load without having to be excessively tight. A question of design enters here. Hangers should be so located that they are close to the pulleys carrying the belts, thus minimizing the bending moment and making a safer drive. Drive pulleys, when possible, should be located close to the beam hangers and not in the middle of long spans.

Investigate Abnormal Condition

When a bearing heats, a careful investigation should be made to ascertain the cause, even if the heating itself does not prove serious, for it may happen that a serious accident will thus be avoided. An instance of this kind where the cause was not ascertained and the accident was not avoided, although no one was injured, was as follows:

The bearing on one end of a short counter carrying a four-frame drive showed signs of moderate heating. As it did not become serious nothing was done. Finally there came a day when the bearing suddenly heated rapidly; very soon the hangers broke and the entire shaft with pulleys fell to the

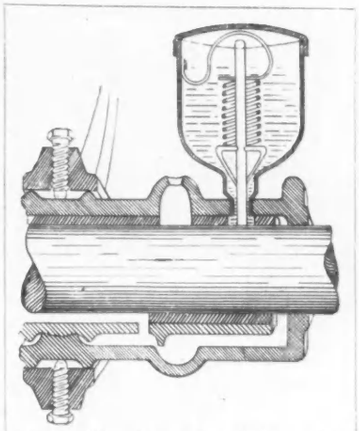

Fig. 1.—New Type of Lubricator for Shafting

floor, badly damaging the machinery, but luckily injuring no one. An examination revealed the fact that the shaft was completely broken through inside the hub of one of the pulleys, the fracture showing that two-thirds of the shaft had been broken for some time preceding the final rupture. It was this first break that probably caused the moderate heating.

As was stated in the beginning, slight variations from the daily running conditions should be carefully investigated, as there is always some reason, and if these warnings are unheeded serious results may follow.

A loose coupling will usually give evidence of the condition by causing the shaft to run out of line. Such a coupling should be tightened at the first opportunity, since it is possible for the shaft to suddenly loosen in such a way as to be badly twisted, thus breaking hangers and dropping whole lines.

In another case, which was in a dye house where there was much steam and dampness which seemed to rot the roof plank and beams, a certain line of shafting developed several hot bearings all in one week. There was also considerable trouble from the belts running off the pulleys. No report was made to the engineering department and no investigation was made. That week-end the roof beam, a 16 x 18 inch timber, which in turn carried the cross beams on which the hangers were fastened, was found to be all rotted at one end where it rested on the column, with the result that it dropped about eight inches. The heating of these bearings and the running off of the belts marked the first sagging of that beam. Another case where the warning was unheeded.

Long Lines of Shafting

Long lines of shafting that are out of line may not cause bearings to heat, but they do cause excessive friction, thereby increasing the oil and power consumption. All such shafting should be regularly gone over and put in proper alignment. It is claimed by transmission engineers that it is a paying investment in plants even of only moderate size, and most decidedly so in the larger ones, to have one or more crews of men who work wholly on lining-up of shafting. Many mills do have such crews, the work being done at night in order not to interfere with the day operation. Special equipment making use of the surveyor's transit and targets greatly facilitate the work. Where the machinery is motor-driven, any gradual increase in the horsepower required to drive a particular group of machinery is often an indication that the shafting is out of line.

Belt and Pulley Inspection

Every pulley, whatever its type, should be regularly inspected and its daily operation observed. The larger jack-shaft pulleys, usually split, such as are used on the reciprocating engine drives, should be given a hammer test at intervals of three months, or less if occasion warrants, to make sure that the hub and rim bolts are tight. In some mills this is part of the oiler's duties, while in other plants the work is done by men from the machine shop. Whoever does the job, it should be done thoroughly and conscientiously.

End thrust of shafting is usually prevented by collars made fast to the shaft at the hangers. Often a collar will become loose on the shaft, and more or less end movement of the shaft will result. This condition should be corrected at the first opportunity, as it may increase to the extent where one or more hangers will be broken by the force of the thrust.

The oiler should also be watchful of the belts, particularly the larger ones. Sometimes a lap will start which if not detected and re-cemented may catch on the pulley and pull down a large section of the transmission system. Belts will often stretch and slip, thereby causing loss of production and waste of power, for a slipping belt consumes more power than one that does not slip. In the case of motor drives, if the ammeter shows wide and sudden fluctuations of the needle going above the normal load, it is good evidence that the belt is slipping.

From what has gone before, it will be understood that the position of oiler is not a minor one or one that can be safely left to any unskilled person. The uninterrupted operation of the mill depends upon the thoroughness and the efficiency with which this man does his work. So also does the safety of many of the employes depend upon the fitness of this man for the job. Let the oiler realize all this, and take the pride in his work that its responsibilities and its possibilities require; and let the employer recognize the same situation and choose his man accordingly, paying him the wage that the position merits.

Underwood & Underwood

International Newsreel

International Newsreel

. . yet they thought they were fully protected from fire . .

They had bought fire protection of one kind or another. But somehow—when the test came—it *did not protect.* Their plants went up in flames.

Such catastrophes occur every day—simply because fire protection was *not properly installed.*

NOW—Fire Protection Engineers to install your Fire Protection

Formerly you could only guess that you had the right extinguishing agent—and you had to gamble on the chance that it was installed properly to protect you from fires.

But that day is gone. Now the Foamite-Childs Corporation offers you the services of a body of trained Fire Protection Engineers—graduate engineers who have specialized in the study of fires and fire protection—men whose practical experience embraces the whole field of controlling fire by science.

Every risk covered

Behind these Fire Protection Engineers is the Foamite-Childs Corporation—manufacturing *all* types of chemical fire-fighting devices and equipment. And that's why Foamite-Childs advice is unprejudiced.

When you call in a Foamite-Childs Engineer, he studies your plant; through his scientific knowledge of fires and fire protection he can select the best kind of extinguishing agent to safeguard your danger points, and install it where it properly belongs—where it will best serve its purpose.

And then the Foamite-Childs Corporation keeps your equipment in working order. You get really active maintenance service through one of the many Foamite-Childs offices.

WHERE THERE'S OIL, GASOLINE, PAINT, VARNISH, TAR, RESIN, OR INFLAMMABLE CHEMICALS—Water can't subdue such fires; but Foamite equipment quickly smothers them under a tough, clinging blanket of carbon-dioxide gas bubbles known as Firefoam. Foamite Protection is available in portable extinguishers, engines, and large stationary systems.

FOR SHORT CIRCUITS AND FIRES IN LIVE ELECTRICAL EQUIPMENT, there's the *Fire-Gun,* whose non-conducting stream instantly stifles combustion. Standard equipment of many leading railroads and public utilities.

AND WHERE IT'S VERY COLD, there's the *Allweather*—a non-freezing extinguisher that functions perfectly down to 40° below zero.

AND FOR ORDINARY RISKS—*Childs Soda-and-Acid* extinguishers and engines have been standard for 27 years.

These products are the means to an end—*fire protection.* Selecting, installing, and maintaining, is specialized work. Foamite-Childs Engineers are trained to this work; they find out what you need and recommend nothing else.

Write us an outline describing your particular risks. Our engineers will make detailed recommendations and furnish rough estimates without obligation to you.

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Business Literature

STEAM DRIVEN COMPRESSORS: Ingersoll-Rand Co., New York, N. Y.

This is a new 36-page bulletin describing the Ingersoll-Rand "Imperial" Type XPV steam driven air compressors. This type of compressor is built in a number of different types and sizes. Standard two-stage machines for 100 lbs. discharge pressure range from 246 to 4,150 cubic feet per minute piston displacement. Single-stage compressors are built for furnishing air up to 50 lbs. discharge pressure. Particular attention is called to the steam valve gear which is used on these compressors. This consists of completely balanced piston valves with riding cut-off valves which telescope within the main valves. It is stated that such valve gears will operate under any commercial steam pressure or degree of superheat and has proved to be satisfactory on low or high speed steam driven compressors.

One of the features of Type XPV compressors is the automatic cut-off governor which regulates the compressor. This governor is operated by means of oil pressure and performs automatically three functions: Maintains constant air pressure regardless of the air demand; regulates the steam cut-off to take care of varying steam conditions; adjusts the speed of the compressor to the demand for air and prevents the compressor from exceeding the maximum safe limit. All of these functions are accomplished by automatically controlling the cut-off in the high pressure steam cylinder of compressors having compound steam cylinders; those having simple duplex steam cylinders have automatic cut-off control for both cylinders. The operation of the oil governor is such as to maintain economy at all load points. Other features of design which are illustrated and described in detail include the Ingersoll-Rand plate air valves which are used for both intake and discharge; the unit construction which requires a simple foundation; and the automatic flood system of lubrication.

ARCO RAYS: The Arco Company, Cleveland, Ohio.

Several interesting folders featuring "Arco Rays" interior paint have been issued by the Arco Company, Cleveland, Ohio. It is stated that this product was developed first of all for efficiency in light diffusion, and is made to knit to any surface, whether brick, stone, concrete, metal or wood. Attention is called to the fact that it is scale-proof and permanent, enduring repeated cleaning. The folders are profusely illustrated with striking views of exteriors and interiors of important buildings.

Lighting the Silk Industry

Use of Mercury Vapor Lamps—From Paper Presented Before Illuminating Engineering Society

By *Charles F. Strebig.**

THERE are two classes of lighting; social and industrial. In this article we are concerned only with industrial lighting, in which case all details must be revealed as sharply and clearly as possible. It is in the industrial field that mercury vapor lighting has a claim to recognition, not only as an unique industrial product but as having unique characteristics which make it eminently suited for the problems which confront the illuminating engineer.

The eye is the indispensable connecting link between the intelligence of a man and the productive capacity of his tools. The eye has itself become an industrial machine and as such is expected to work both as a microscope and as a telescope. This unnatural service calls for artificial aids. The average eye can be improved for exacting industrial work by means of properly fitted lenses. Average daylight illumination can be improved upon by properly designed artificial illumination.

Any system of artificial lighting should be installed with a view at least to meeting daylight conditions. The change from natural to an indifferent artificial lighting system is in part directly responsible for faulty work and drop in production.

High Intensity Required

The character of the work in the silk mill is such that it requires what we term first-class lighting, that is, 10 to 20 foot candles. The unified efforts of the most competent mill man are insidiously undermined by too little attention being paid to the illuminating problem. It is just as necessary to have a sufficient intensity of thoroughly diffused light of the quality that permits distinct vision with a minimum of fatigue, as it is to have generous window space for adequately flooding the interior with daylight, otherwise the manufacturer faces a heavy annual toll for neglect.

The efficiency of any system of shop lighting is determined by the efficiency of the workman who uses it, as shown by the output of his labor. The mechanical, or physical, efficiency of the light-units themselves is of secondary importance. In designing a factory lighting system, therefore, there should be the closest co-operation between the production and engineering departments.

The most unique features about mercury vapor lighting for industrial purposes are:

1. High visual acuity.
2. Low intrinsic brilliancy.
3. High diffusion.

It is these main points which I will discuss in this paper.

The light of mercury vapor has a revealing power that surpasses even sunlight at its best. Fine details that can be discerned only with difficulty, or not at all, under continuous spectra light, are readily distinguishable under the simple light of the mercury vapor lamp. This is the direct and inevitable result of the construction and operation of the optical apparatus of the eye. It is a physical impossibility for the lens of the eye to produce a sharp image on the retina with the complex light of the sun and incandescent solids; and it is the image on the retina that we actually see, just as it is the image on the film that we really photograph.

The increase in visual acuity produced by mercury vapor light is equivalent to a very perceptible magnification. This virtual magnifying effect is often sufficient to render the use of weak spectacles unnecessary. Where quick and accurate perception of fine details is necessary, as in the inspection of manufactured products for minute structural or mechanical defects, mercury vapor light has entirely replaced sunlight in some establishments.

Reaction Time

A still more remarkable fact has recently been demonstrated, which is undoubtedly an indirect result of the increase in visual acuity. This fact has been established by means of the modern methods of experimental psychology. From a series of experiments including some 40,000 observations it appears that the muscles respond, or "react" more quickly to the visual impressions produced by mercury vapor light than to impressions of the same object by sunlight or incandescent (solid) light of equal photometric intensity. In the language of the science of psychology, visual reaction time is shorter under mercury vapor light than under daylight or incandescent light of equal intensity.

A further fact which was brought out in this research is that at all intensities above five foot candles mercury vapor light surpasses all forms of continuous spectra light at all practical intensities.

It is estimated that 70% of all human actions are guided by a sense of vision. Probably a still larger proportion of the motions used in labor are so guided. The visual organs are the great control system of this infinitely complicated machine. "Reaction Time," the time it takes a workman to see a thing and make a motion, is the final basis of labor efficiency, and hence of labor cost. To secure the utmost in reaction time is therefore the first important consideration in providing a lighting system for any branch of industry.

Freedom from Glare

Another characteristic of mercury vapor light which has an important bearing on the general problem is its freedom from glare. The large luminous surface has a brightness of only 15 candle power per square inch, which can be met by the eye without discomfort or inconvenience. It is a modern light-source that can be safely used without more or less elaborate accessories for diffusing its light to reduce glare to the point of safety.

Finally, mercury vapor light is easiest on the eyes, owing to the fact that its light is the coolest. It contains no red rays, which are the hot rays; its light is practically all light, that is, radiations which have the greatest power to produce the sensation of vision. Hence, the eye sees with less effort and with less fatigue.

The silk operator labors under a tension, in that the eye is almost constantly called upon to detect broken threads. Only by a well diffused light source can shadow on all parts of the machine, that require direct light, be avoided. Light striking the operation at an angle in most cases is more effective than a vertical beam, thus throwing the thread into greater relief.

The close proximity of the threads in the warping and weaving operations makes quite necessary quick perception, skill and effort to locate the broken end. The strain is aggravated if the volume of light is insufficient, too intense, glare excessive, or shadows heavy, during the periods when artificial light is used. Therefore, the unavoidable result is fatigue.

Shadows

Next to the troubles arising from glare, the difficulties encountered in respect to shadows have constituted the most obvious difference between natural and artificial illumination. Like glare, these difficulties increased with the progress of solid radiant light sources, due to the fact that increase in efficiency has been secured by increasing the brilliancy and decreasing the size of the radiant.

Shadows are absolutely necessary to visual perception, since they produce those effects in perspective which we commonly call "roundness" and "depth." Without shadows all objects would appear flat. Trouble arises when the shadows are so dark as to obscure objects and details within them that must be clearly distinguishable, and when their outlines are so sharp as to confuse the shadow with the object.

The Color Problem

Frequently the manufacturer has difficulty in deciding on the type of lighting that best meets his demand and in this case the problem resolves itself to a question of distinguishing colors, or of distinct vision. The latter is of greater importance, as it insures more and better work, and, except in extremely intricate color schemes, a practical mill man will tell you the answer to the color problem is discipline. Rigid insistence on a simple system being followed relegates the thought of color mixing to the discard.

In a well conducted mill the spinner would not think of picking up a bob-

* Cooper Hewitt Electric Co., Hoboken, N. J.

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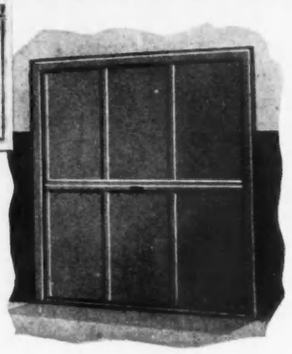

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bin from the floor and placing it on the spindle. It would be returned to the foreman for re-classification. In the majority of cases an analysis will prove the color question is not at all serious. Even under daylight if the discipline is lax, color mixing is frequent.

Value of Organized Cleanliness

Pays Dividends by Building Morale and Enabling Employes to Do Better Work

By *E. E. Dyer**

IT has been demonstrated that wholesome, sanitary cleanliness in industry as well as private life is not only necessary to better physical well being, but it has a definite economic value; it is profitable. An attractive and sanitarily clean industrial establishment has an inviting appearance which draws irresistibly a discriminating personnel of employes, who are as easily repelled by slipshod, insanitary, uncleanly conditions.

The cleanest plants in any town have the advantage over the others inasmuch as they have no trouble in securing employes who are better equipped mentally as well as physically, especially among the feminine workers.

Cleanliness in a plant goes hand in hand with other attributes of efficiency. Leave cleanliness out of consideration and many of the other progressive methods are lost. This is undoubtedly true of machines; surely it can be no less true of men. Just as a machine does better work when it is kept clean, so does the human worker give better service when provided with clean surroundings and the opportunity and encouragement to keep his person and his mind clean and healthy. Cleanliness and good order contribute to increased output as well as to discipline and morale.

To the stockholder, sanitary cleanliness has a money value in that it largely retards depreciation and repair costs, because expensive, modern equipment in up-to-date plants can only function properly and offer maximum resistance to wear and tear when kept clean and free from dirt and other foreign matter.

Establish Janitor Department

The importance of these problems demands a solution on the part of someone. It is evident that this someone must be equipped with a thorough knowledge of cleaning. The sanitary work at the Lancaster Mills, like the majority of textile plants, was looked after by the overseers of different departments, each overseer carrying one or more scrubbers to a room. The management, realizing that the cost for sanitation, janitor service, etc., was a large item, decided to establish a janitor department with overseer and second hand, with all janitors and scrubbers throughout the plant (28 in all) to be transferred to the new department. Headquarters and the main base of supplies were located at a central point in the plant.

The plan went into effect Jan. 9, 1922. Since then all janitor service for main offices, department offices and the sanitizing of all toilets, sinks, wash stands, bubblers, windows, stairways and floors has been handled by the janitor department. At the end of one year, Jan. 9, 1923, the personnel had been reduced from 28 to 21, a reduction of 25% in labor cost.

Again on April 2, 1923, the number of employes was reduced from 21 to 16. This was made possible by rearrangement, consolidation and elimination of idle time, by paying each janitor a full day's pay for a full day's work, and by employing able-bodied men only, instead of the semi-incapacitated type invariably used for this class of work here and elsewhere. The plant was divided into four sanitary divisions, one janitor assigned to each division and held strictly accountable for the cleaning of the chain of toilet rooms, bubblers, sinks and wash stands on his division.

Each janitor carries a kit of equipment including disinfectant, scouring powder, brushes, etc. He also repairs or reports breakage of fixtures or stoppages on his patrol. He goes from one toilet room to the next and so on, covering his division four times daily. Thus dirt and foreign matter and repairs are taken care of automatically. Two janitors are assigned to the stairways in the plant, sweeping all stairways twice a day and scrubbing them twice a week. These men have special trucks carrying all equipment. Nine men are assigned to the general sanitary detail.

A permanent schedule is mapped out for the scrubbing of floor space, alleys, etc., taking into consideration and making allowance for traffic conditions in the departments when in full operation.

Saved $9,000 in a Year

Mops are made in our carpenter shop and the mop filling is our yarn waste. We have 12 scrubbers' trucks which were made in our carpenter shop. They are of 70 gallon capacity, divided into two compartments. This makes possible the sending of two, four or even 12 trucks of boiling water to any part of the plant; and makes a continuous scrubbing operation possible as compared with pail scrubbing methods in vogue in years gone by.

The establishment of the janitor department, the bringing of all sanitary work and janitor service under one head, gave the plant an overlapping continuous system of sanitation and a yearly saving in labor cost of $9,000 —*Builders.*

* Sanitary Engineer and Overseer of Lancaster Mills' Janitor Department.

Modern Bleachery Engineering

From Paper Contributed by Textile Division for Presentation at Meeting of A. S. M. E.

By *Frank P. Bascom** and *J. C. McDowell***

BEHIND the building and equipping of a mill stands the engineer, whose task it is to visualize the completed plant in his mind as the first procedure preparatory to the making of drawings, specifications, plans for erection and purchase of building materials and equipment. On the screen of his mind mental pictures of design, construction, erection and equipment will form and pass, showing the different stages of construction until operation is possible. Sketches and plans find their conception in these mental pictures, and in them is heralded the birth of every new enterprise.

Every stage of its mental building is scrutinized by his vision and weighed in the balance of his judgment and experience. His desire to produce a structure commanding in technique and suitability leads him to give the planning of the plant very intensive study, and in the imparting of his vision and judgment to paper he marshals all his skill that his plans may materialize in the erection and operation of a plant that will serve its purpose most completely.

The modern finishing plant is designed, built and equipped to allow for economical and successful operation, and when it is engineered with foresight it is not only commercially sound but technically correct in structure and suitability to the business.

Equipment of Ideal Plant

The description of what might be termed an ideal plant, equipped with every labor-saving device and engineering achievement, will show what can be accomplished in producing large volumes of work with an unprecedented saving in time and manpower. The bleachery proper is a one-story building with basement having a story height of approximately 20 ft. and a basement of 12 ft. The kiers and pits are located in the basement, extending above the first floor.

The basement floor is made with built-in drains and a surface that will resist the action of the acid used. The main floor of the building is made from the very best of hard-pine timber and plank, heavily creosoted. The framing carrying the reels is also made from the same material. The roof is made from concrete insulated with cork, and the room is well ventilated by a large monitor running the entire length of the building.

Storage and Material Handling

The handling of materials in this plant is of interest. The storage of chemicals and starch, etc., is in the basement, and these are received on the first-floor level and used on the mezzanine floor. All materials are handled on trailer trucks. A ramp is provided for handling material to the basement, and the elevator is large enough to handle a loaded truck to the mezzanine floor for distribution. The plant throughout is equipped with automatic plaiters for filling the kiers and pits.

Taking care of the water for bleaching is an item of great importance to the modern concern, and elaborate filtering and purifying plants are considered among the first requisites for doing high class work.

This branch of the industry is a most important one and extreme care must be given to the goods in every process. There are but few hard-and-fast rules that can be applied in the successful production of high-class work. In the bleaching of goods the bleacher can only be guided by the weight, feel, construction, and appearance of the goods, how they respond to treatment in the different operations, and whether they are to be marketed full white, dyed, printed, or napped.

In passing judgment he can only draw on his experience or that of others to guide him. Years of contact, observation and experience have left indelibly on his mind and memory the characteristic appearance of different classes of goods while under treatment. It is this he recalls when he is endeavoring to pursue the wisest and safest course. The feel of the goods is also a guide, and the sense of touch or feeling tells the man of experience just what his goods will stand. This knowledge cannot be imparted by the mere telling or reading of it. It can only come through close association and keen observation day in and day out in the actual processing of the goods.

Value of Experience

While a knowledge of chemistry is a decided asset to the bleacher, the student of bleaching must nevertheless bear in mind that in studying chemistry he must give intensive study and thought to the application of chemicals to cloth as used in its treatment. This cannot be obtained in any laboratory. It can only be gotten in the bleach house proper, and preferably in a good-sized plant doing a variety of goods under the guidance of an experienced bleacher.

The same thing holds true in finishing, only that the finisher must be guided in his judgment according to the different finished effects desired and demanded by the trade. Judging the amount of starch to get a certain feel in cloth, moisture in goods, type of calenders to use and how, are problems that the finisher must meet every day.

Dyeing and printing are still more

* Supervising Engineer, Lockwood, Greene & Co.
** Lockwood, Greene & Co., Boston.

Executive Control via the P-A-X

The P-A-X is similar to the Automatic Telephone equipment being so widely adopted for city service. It augments and completes, but does not supplant nor connect with, the local or long distance telephone service.

When your organization is equipped with the P-A-X you know what is going on in the plant or yards without leaving your desk.

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More than a private telephone exchange—the Automatic Electric Services of the P-A-X include and co-ordinate interior telephony, code call, conference, watchman service and all other inter-communication needs

complex on account of the numberless kinds of dyestuffs and pigments used, and shades and color effects wanted. Striking a shade cannot be figured on paper. When a dyer is given a shade to match he can only draw on his experience or that of others to guide him in his judgment. A few patches from the first batch must be taken usually before the right shade is struck, and only then is it safe to proceed with the bulk of the goods. The same thing is true of printing, only that a small length of cloth showing the entire design is taken to judge not only the color but the exactness of the application of the design.

The fact will be appreciated that in making gray goods a snowy whiteness, dyeing them in delicate hues, or printing them in artistic and beautiful designs and producing the many finished effects the trade demands, great care must be exercised. Behind all these are the minds and combined skill of the organization and the men who are responsible for the products of their plant and their fame on the market. Many of the men who follow this industry are real artists in their respective crafts, their minds being storehouses of knowledge gleaned in the ripe fields of experience and of intangible value to their plant and employer.

In the grouping of units and the transportation of goods from one process to another, engineers and plant geniuses have employed rapid-transit methods that have made possible production heretofore unattainable. From the moment goods are sewed in a modern finishing plant they are practically never handled until they are completely finished and delivered to the putting-up room.

Daily Program of a Plant

Let us follow the daily program of a modern plant. Gray goods are usually processed in five-ton lots, and if these weigh, for instance, four yards to the pound this will equal 20,000 yards. The goods are laid out and the ends of each piece are sewed on a power sewing machine. They are then passed through the singeing machine if it is deemed advisable to singe off the loose or superfluous fiber on the surface of the goods. Attached to each singer is a small water box or trough so that when the goods leave the last flame they are passed through water on their passage to the gray bins. This eliminates the danger of scorching or burning the goods.

Liming and filling of the lime kiers are done the first thing in the morning, as also is the emptying of the kiers of the previous night's boiling. The lime-boiled goods are washed and soured, and later in the same day are returned to the kiers for soda boiling that night.

The soda boils of the previous night are washed, chemicked and plaited into the chemic bins to lie over night. The chemics of the previous day are washed and soured and passed through pilers directly into the final washings and placed into the finished bins. In the modern plant all the equipment and machinery is so placed that as the goods proceed down the length of the house they are heading forward all the time toward completion. Here are seen endless chains of cloth passing in and out of the kiers, from and to the washers, into and out of the sour and chemic bins, into and out of the finished bins, with intermediate washings between every process.

Where the machinery used in bleaching might not be considered spectacular, it is a most pleasing sight to see thousands upon thousands of yards of cloth passing from one process to another, to view it in the gray, to watch it respond to treatment, and to view it piled in the wet-finished bins in huge masses of snowy whiteness.

Goods upon leaving the finished bins will pass directly to the scutcher to be opened out to their full width as they pass directly into the mangles and drying units. Here they are treated according to whether they are to be finished white, dyed, printed or napped.

Finishing Sheetings

Let us follow the finishing of such goods as sheetings. These goods will leave the white pits and pass directly through a scutcher into a combination water and starch mangle—if for pure starching directly into a weft straightener and 40-ft. tenter—and over a large dry-can set and then be folded into trucks. If for back filling the goods will pass through a water mangle, over a small dry-can set, into a Scotch mangle, directly into a 40-ft. tenter and over a large dry-can set and then be folded into trucks.

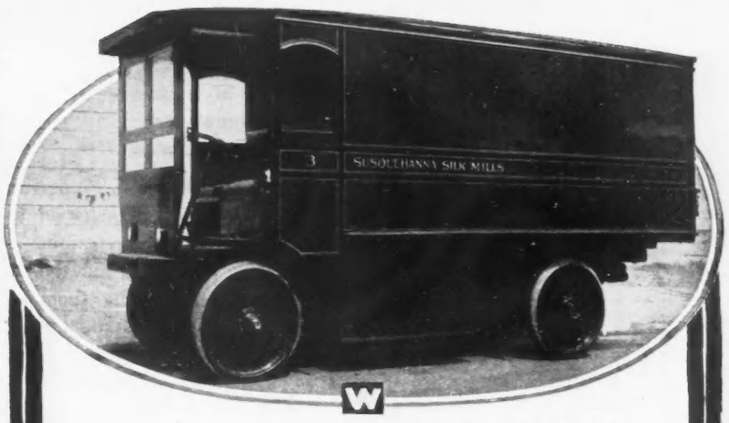
These rapidly moving units are never stopped from starting to stopping time unless some mishap occurs such as through the breaking of a seam, etc., and are speeded to deliver an enormous yardage. The cloth is automatically guided into these units by Foxwell guiders, which are operated by compressed air. This work was formerly done by two women sitting at the entering end of the frame who fed and guided the cloth by hand into the clips.

These units are driven by direct-current variable-speed motors having a speed ratio of three to one, all under push-button control.

Variable Speed Motors

The use of electricity and variable-speed motors has done much for this end of the business, and the engineer has done much to insure tneir application and success in operation. Synchromization of grouped units stands out as one of the most scientific innovations of recent times. In this a push button controls all the motors, so that all of the machines in the unit can be started or stopped simultaneously.

Each machine in the unit is equipped with a rheostat control so that they may be run together. The



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A Hammer

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The application of Bristol's Patent Steel Belt Lacing is so simple that these are the only tools needed.

One blow of the hammer and the wedged shaped points are driven straight through the fibres of the belt without tearing them—a few more taps and the lacing is clinched so that it lays almost as flat and smooth as the belt itself.

No special tools to provide—no holes to punch—no costly delays when a belt breaks—and

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is adaptable for any kind of belt in any place—at any time.

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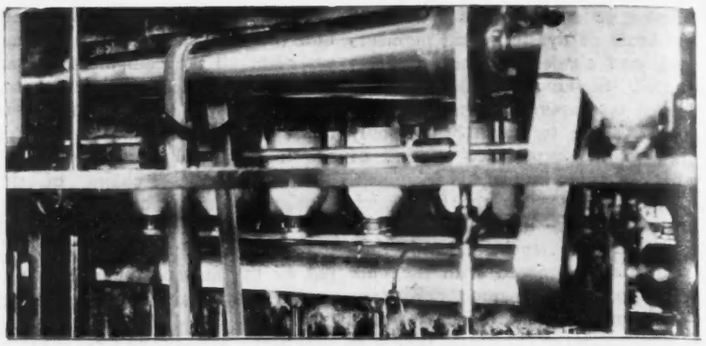

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You get better service, longer wear, and the kind of performance that assists in the production of yarn free from knots, snarls and piecing, when you use Goodyear Cord Cone Belts on your slubbers, jack frames, intermediates and fine frame drives

Goodyear Cord Cone Belts do not break or stretch. They hold the cones and the pulleys in a flexible, slipless grip. Their efficient, economical service is a result of correct design and construction.

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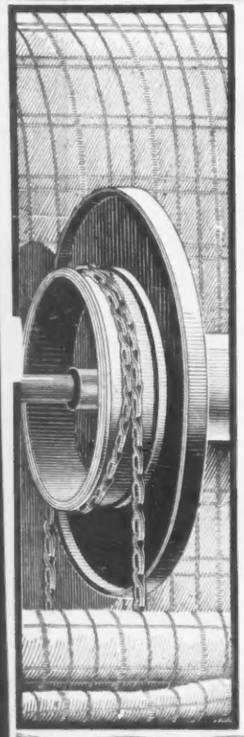

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(also known as Friction Let-Off Chain) gives positive warp-beam tension on all weaving looms, and is stronger and more economical than bands, cord or rope.

The Chain is not affected by atmospheric conditions, and therefore will not stretch, rot, or take up. This eliminates the necessity of frequent adjustments and, as the friction surface is always the same, insures perfect and uniform weaving.

Made of the best steel obtainable, and assembled on automatic machines. Strength is uniform throughout. The weldless pattern shown above is the "American" Pattern. The electric welded pattern illustrated below is the "Elwel" Pattern.

Made in a full range of sizes for use on Cotton, Silk, Woolen, Carpet, Blanket, Duck, Shawl, Ribbon, Tapestry and all other Weaving Looms.

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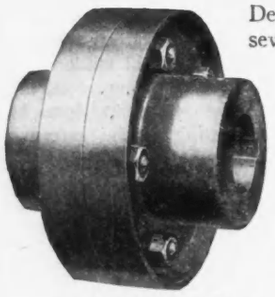

Designed to withstand severe line-shaft service. Flanged to protect the workmen from being caught on the bolt heads or nuts. Machined all over to template, making them interchangeable and therefore easily duplicated.

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INTERCHANGEABILITY
is a feature that has made

THE T. B. WOOD SONS CO. LINE

of Power Transmission Machinery the standard in so many of the country's largest plants.

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T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.

POWER TRANSMITTING MACHINERY

dancer roll, which controls the tension of the cloth, is connected with a rheostat which itself regulates the speed of the motor. As the cloth pulls tighter between any of the machines in the unit, the motor is caused to speed up through the actuation of the motor rheostat. In this manner the cloth is kept under control at all times.

After drying the goods are dampened by passing them through an atomizer as a preparatory processing to calendering. The dampened roll is then taken to the unrolling machine placed back of the calender. The cloth is run through a five-roll machine, from which it goes to a scray or trickle and then to the double doubler which is run in connection with the calender. This machine doubles the cloth to one-quarter of its original width in two stages, and then plaits it into a truck. This machine is also equipped with Foxwell guiders for feeding the cloth, and both the calender and the doubler are driven by direct-current variable-speed motors.

The cloth which is to be made into sheets and pillow cases is then taken to the tearing tables, where it is torn into the desired lengths. It is then distributed to the various sewing tables. For pillow cases there are two sewing processes, and for the ordinary wide sheeting, three, after which the individual sheets are folded and placed in trucks. The folded sheets and pillow cases are then taken to the laundry mangles, where they are pressed, and later parceled and put into the storage racks.

Business News

New Sales Connections for McClave-Brooks Co.

The McClave-Brooks Co., Scranton, Pa., maker of McClave-Brooks grates, stokers and combustion appliances, has appointed the Carbondale-Buffalo Co., Buffalo, N. Y., as its sales representative in New York State and Canada. The territory will include that part of the State west of Rochester, and also the provinces of Ontario and Quebec in Canada. Henry J. Botchford is manager of the Carbondale-Buffalo Company.

I. N. Beeler Co., 504 City Bank Building, Syracuse, N. Y., will represent the McClave-Brooks Co. in New York State north of Kingston and east of Rochester.

Sales in the remaining part of the State will be handled by the McClave-Brooks Co.'s branch office in New York City, under the direction of George Blair, Jr. Norris N. Sibley was recently appointed assistant manager of the New York office.

Sale of Lamson's Lowell Plant

The former manufacturing plant of the Lamson Co., Lowell, Mass., will be sold at auction by J. E. Conant & Co. on Tuesday, Aug. 7, 1923, promptly at two o'clock in the afternoon, daylight saving time, on the premises. The Lamson company has moved its organization to a new property in Syracuse, N. Y., in order to be nearer its source of supplies and center of distribution. The property offered for sale has a frontage with spur track on the Boston & Maine Railroad Southern Division (main line) and a long street frontage; reinforced concrete and brick manufacturing buildings with all modern conveniences; foundry building; office building and all necessary auxiliary buildings; power plant and main shafting. The buildings comprise some 109,000 sq. ft. of floor space and are so placed as to afford natural light on all sides. The land comprises more than two and three-quarter acres, providing room for enlargement or future growth.

European Interest in American-Built Industrial Trucks

The new line of electric storage battery industrial trucks just put out by The Yale & Towne Mfg. Co., Stamford, Conn., has awakened such interest in European manufacturing centers that the company is sending abroad the manager of the Truck Division, Major R. W. Chandler, who sailed on the "Vollendam," of the Holland-American Line, Saturday, July 28, for England, France, Belgium, Denmark, Sweden, Norway and Holland.

John Bridge Sons Enlarge

Enlargements to the plant of John Bridge Sons, manufacturers of leather belting at Chester, Pa., have doubled its size and producing capacity. The plant is now two stories, covering approximately one-half a city block.

The firm was started in 1880 by John Bridge and is now conducted by his sons, Arthur Bridge and J. Francis Bridge. The product is known as "Keystone" and covers, in addition to leather belting, roller covering, textile leathers, etc.

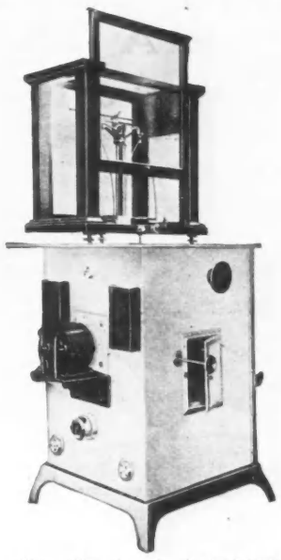
Preparing Cotton Standards

(*Continued from page 72*)

fifteen years has demonstrated this to be the only practical means of preserving the cotton standards free from any possibility of changes, particularly of color. To test the efficiency of storage in vacuum, duplicate samples of cotton were treated as follows: First, exposed to light and air; second, exposed to air but not to light; third, exposed to light while in a vacuum; fourth, placed in a vacuum, but not exposed to light. These samples were of white cotton, yellow tinged cotton, and blue tinged cotton. The samples were all closely compared with each other by competent men before and after storage in the tubes. Sets which have been opened after nine years of storage establish the fact that cotton in a vacuum, even when exposed to light, does not change to any perceptible degree.

Description of Vacuum Tubes

The glass vacuum tubes in which the types comprising the sets are placed are cylindrical in shape and have a diameter of 3½ inches and a



Rear View Showing Analytical Balance

Do you test yarns or fabrics for strength?

If you test yarns or fabric for strength without considering moisture content, ***your results are not correct.***

To prove it make this simple experiment: Cut two pieces of yarn of equal length from the same cone. Wet one: now test both for strength and notice the difference.

You ***must*** know moisture content to secure correct results. With the Freas Electric Conditioning Oven you can find the percentage of moisture your yarn or fabric contains.

By comparing this figure with the standard moisture content (regain) the strength determined by the test can be corrected to give the strength under standard conditions (for cotton fabric the tensile strength increases by about 6% for each degree of regain).

The Freas Oven is used by the U. S. Conditioning and Testing Laboratory and by a number of leading mills. It is a very simple device—any employe can operate it. Current is supplied by an ordinary lamp socket.

Bulletins giving complete information will be sent on request

See our Exhibit at the Ninth Exposition of Chemical Industries

THE THERMO ELECTRIC INSTRUMENT CO.

8 Johnson Street Newark, N. J.

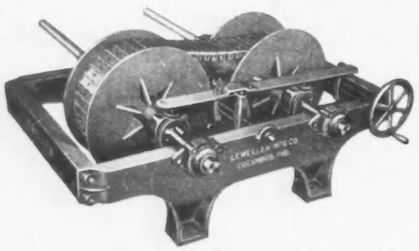
FREAS

ELECTRIC CONDITIONING OVEN

OIL THE LEWELLEN ONCE A YEAR!

This is a point of superiority over all other Transmissions

Proper lubrication is one of the most important features in the operation of a variable speed transmission. It is absolutely impossible for a man with an oil can to keep a transmission properly lubricated. The bearings must *all* be *self-oiling* to insure efficient operation under all conditions of service.



Every bearing of every Lewellen Variable Speed Transmission has an oil reservoir and means for circulating the oil through all the bearing parts. All bearings are enclosed in oil-tight, dust-proof mountings which hold the lubricant and exclude all dirt and grit.

These oil reservoirs require refilling ONLY once every six to twelve months.

This important and outstanding feature alone makes the Lewellen Transmission superior to all other transmissions.

The Lewellen Transmission is adaptable to any need. Whatever power you wish to control the Lewellen will do it better at lower maintenance cost than any other speed control device ever invented. The Lewellen will run in either direction with power applied to either shaft, is perfectly accessible in every part and so scientifically designed that it will give the most sensitive shading of speed control that could be desired.

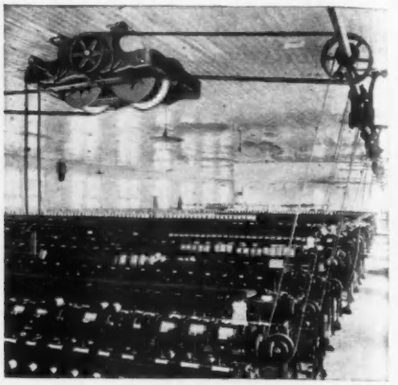
There is a Lewellen Transmission for every conceivable purpose and our engineering department stands ready at all times to help you work out the proper installation to solve your speed control problems. Write for our Catalog.

The Lewellen VARIABLE SPEED TRANSMISSION

LEWELLEN MFG. CO. Columbus, Ind.

GRADUAL INCREASE IN SPEED

with steady and positive flow of power is very essential for operating a Silk Winder line shaft. From 25 RPM to 250 RPM in less than 40 seconds is easily accomplished with "THE REEVES" Variable Speed Transmission. It eliminates "setting down" and "setting up" of bobbins when starting and stopping the winding machine. At quitting time, by turning a handwheel the Transmission reduces the speed of the winder shaft from 250 RPM to 25 RPM and then the power is thrown off by an attendant and the bobbin stops gradually without any tangling or breaking of silk.



No. 3-A Reeves Transmission G. W. Frisbie Silk Mill, Scranton, Pa.

"THE REEVES" Transmission is also adaptable to Tentering Frame, Dryer, Bleacher or any kind of textile machine where variation of speed is required.

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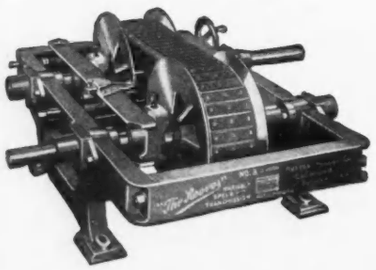
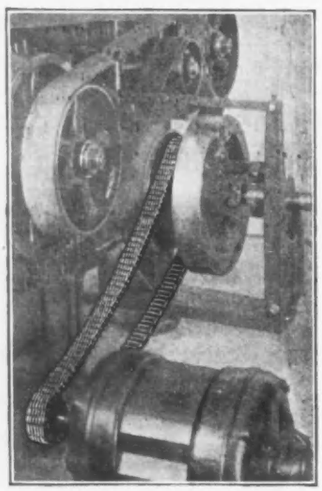


Reeves Pulley Company
COLUMBUS, Indiana

"The Reeves" VARIABLE SPEED TRANSMISSION



American High Speed Chains will save you many dollars in reduced operating costs. Send for one of our engineers—it places you under no obligation.

AMERICAN HIGH SPEED CHAIN CO.

Indianapolis, U. S. A.

"Sellers" Shaft Couplings

Patented 1854

TRIED PROVED

The kind to put on first or when other kinds fail. They will never wear out or let go. Compare it with any other type and note:—

It grips each shaft independent of the other.
It holds both shafts in true axial alignment.
It transmits the full power of the shaft.
It runs perfectly true.
It requires no special fitting to place.
It will connect two different sized shafts from 1 7/16 to 5 15/16".

Shipments of Complete Couplings or Change Parts from STOCK.

WHERE IS ITS EQUAL?

WM. SELLERS & CO., Inc.

Main Office and Works: PHILADELPHIA, PA.

New England Office: 79 Milk Street, Boston, Mass.

MACHINE TOOLS AND INJECTORS

total length over all of 18 inches. These tubes were manufactured expressly for this purpose and are probably the largest vacuum tubes ever made. As received from the factory, one end of the tube is closed and spherical in shape; the other end is open. The walls of the tube are about 2 millimeters in thickness.

Method of Filling the Tubes

To fill the tube now used for vacuum storage, a wad of cotton is placed in the bottom, just filling the spherical portion. (See Fig. 2.) The sample of cotton to be preserved is rolled in pure filter paper, the face of the cotton which shows the grade being next to the paper. The tube is then wrapped in a piece of pure black carbon paper in order to protect the cotton from the light, although experience indicates that this precaution is unnecessary, and the whole is placed within the tube. A disk of carbon paper used on the interior of the tube is first chemically tested to insure its freedom from acids. As a means of identification when the tube is opened, the set number, the grade, and a number to indicate the position of the type in the grade box are written on the outside of the black paper.

Because of the heat which is applied at the open end of the tube during the closing or drawing down process, a quantity of asbestos which previously has been fused at about 900°C. for 25 minutes, to destroy organic matter, is placed on top of the cotton sample, being separated from it by a wad of cotton to prevent the asbestos from coming in contact with the sample to be preserved. The tube is now turned over to a glassworker, who partially closes or draws down the open end, leaving only a connecting tube. This tube is then attached to a vacuum pump for the exhaustion of the air.

Exhaustion of the Tubes

For evacuating the air, two pumps are used, one an oil pump which does the final work of exhausting to an internal pressure of 2 millimeters as compared with ordinary atmospheric pressure of 760 millimeters. The gauges by which these pressures are read are calibrated, the error in accuracy of any individual gauge being about one-tenth of a millimeter. In order that the reduction of the air in the tube to the 2-millimeter pressure may be certain, the tubes are allowed to stand over night at an internal pressure of 5 millimeters before the air pressure is reduced to the final 2-millimeter pressure at which the tubes are sealed. During the process of pumping, the air in the pump system is exposed to a considerable quantity of anhydrous phosphoric acid which extracts the moisture from the air, leaving practically no vapor pressure for the pumps to work against nor any moisture that might have an injurious effect upon the cotton during the storage. Sealing is accomplished by applying a fusing heat to the neck of the capillary tube while attached to the pump and with the internal pressure reduced to 2 millimeters.

Inspection

A change in temperature is likely to cause contraction of the glass tubes and occasionally they will crack. Several weeks after the tubes are finished an inspection is made to determine whether any air leakage is possible. If found to be perfect, the vacuum sets are stored in a fireproof building where the temperature is practically constant.

Use of Sets Stored in Vacuum

The purpose of this vacuum storage is to provide a means by which the qualities appearing in the original standards can be preserved and perpetuated. Whenever it is deemed expedient, one of these sets, comprising 108 tubes, can be opened and the samples removed and placed in their respective grade boxes for comparison with the sets in use, and, if necessary, corrections can be made in the latter.

Twenty-four sets of the Office Cotton Standards of the United States for the white grades and fifteen sets for color for Upland Cotton have been thus stored in vacuum.

Each box was photographed, so that when a set is opened for comparison, the surface leaf in the cotton can be compared with that appearing on the photograph. This method of verification largely eliminates any danger of deviation from the original standards which might result from careless handling. This method of storage makes it possible to preserve in each individual type the color and leaf characteristics of the original set approved and promulgated by the Secretary of Agriculture. The cost of labor and supplies, the great care and the special machinery and equipment required, make the storage of samples in vacuum very expensive. It enables the Department, however, to adhere to its standards with a degree of consistency which no other agency at present approaches.

Grading Room

The principal grading rooms are equipped with a specially constructed skylight, the total length over all of which is 132 feet. The skylight faces directly north and the glass is fixed at an angle of 70°. No light is admitted to these rooms except through the skylight, so that there is at all times a uniform diffusion of light, and no direct rays can appear. Walls, pipes, pillars, etc., are painted steel gray, this color having been found best suited to the work. The volume of light admitted through the aperture is increased to the maximum by forming the back of the skylight in the shape of an arc of a circle. The roof line of the building upon which this skylight is erected is much above that of any other in the vicinity, so that reflected light can not reach the skylight. Visiting cotton men from America and abroad have stated that these grading rooms were furnished with the best and most uniform light to be found in any place devoted to

"A consummation devoutly to be wished"

Do as we suggest at the bottom of this advertisement — and the smile at the top is bound to be yours.

44 years experience. Represented everywhere in the United States. A request to either office gets immediate action

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Look to Your Ledger for Bills Past Due
Then Look to Dolan to Collect for You

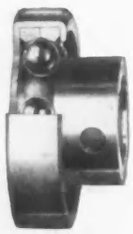
THE "Commercial" ANNULAR BALL BEARING

Selecting Bearings

In designing a machine with plain bearings, the engineer should select the least expensive bearings that are suitable for the work. There is no need to use an expensive type for a comparatively light service. The bearing chosen should be that type or grade which the load and speed require.

Schatz "Commercial" Annular Ball bearings are inexpensive. They are designed for moderate radial and radial thrust loads at 3000 r.p.m. or less.

Catalogue, discount sheets, samples.



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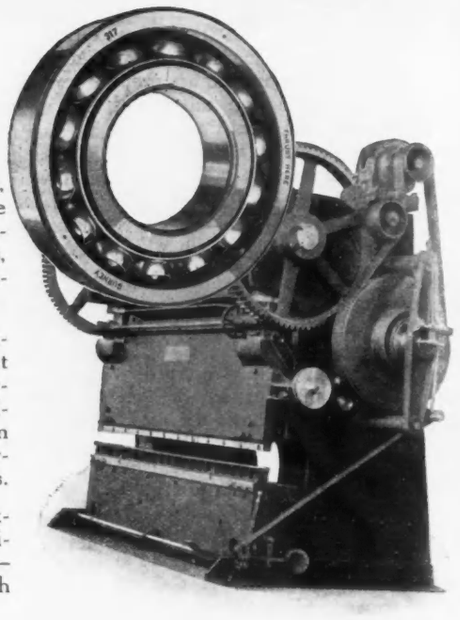
Cincinnati Brake or Plate Forming Machine

This interesting machine, in order to withstand the tremendous stresses without deflection or distress, is built up of steel throughout, instead of cast iron.

It is natural, in such a machine, that all important bearings such as the bearings of the big clutch pulley, the idler on worm shaft,—some eight bearings in all—are Gurneys.

Gurney Engineers are experienced in solving difficult bearing problems—let them help you with yours.



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GURNEY BALL BEARINGS

ALBANY GREASE

There is no substitute for this pure tallow lubricating compound. Ask for genuine Albany Grease — responsible dealers everywhere carry it — and insist on getting it.

Look for this trade mark on every package of Albany Grease. It's your guaranty of full efficiency and long life to every shaft or machinery bearing in your plant.

If your dealer doesn't carry Albany Grease, write us direct

ADAM COOK'S SONS
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OILS AND GREASES

Give Complete Satisfaction

Buying cheap oils is a dangerous practice. Harris Oils cost a little more, but they give complete satisfaction, and for that reason are the most economical to use.

"America's Leading Lubricants"

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THE A. W. HARRIS OIL COMPANY
325 South Water Street
Providence, R. I.

the preparation of standards for cotton.

There is no doubt that the conditions of light under which this work is done are far superior to those in the average cotton-classing room. Due to the abundance of light, it is possible to detect minute discrepancies which could not be discerned otherwise.

The standards for white cotton are composed of 240 types contained in nine boxes. In order to carry on the work of preparing practical forms of the standards, from 800 to 1,000 bales of cotton are kept on hand. A permanent record of each bale is kept in order that the purchases from this use can be distributed geographically so as to represent all of the cotton-growing States, as was done in the original set.

Purchase of Cotton for Standards

The purchase of cotton for use in preparing practical forms of the official Cotton Standards is materially different from the purchase of cotton for manufacturing purposes. The average manufacturer uses cotton within a limited range of grades, while the Department of Agriculture uses cotton of all nine grades with 12 distinct types within each grade. It is most difficult, therefore, to purchase cotton which will match exactly each of these 108 respective types. This is not because most bales are not representative of some commercial grade, but because an average bale will not match accurately any one of these 108 types. When types of cotton are studied under the best possible light, such as has been provided for this work, the combinations of grade factors are so numerous in different bales that it is difficult to secure two bales which match in every particular; whereas in grading cotton for commercial or manufacturing purposes, equal values within a certain prescribed range of color, grade, and length of staple are acceptable.

There are hundreds of bales which will come within the value and general character of the grade box that do not match any particular type; that is, they fall between the types or combine characteristics which the official standards show in separate types. There are a number of grade factors—leaf, motes, neps, cut fibre, immature fibre, seeds, sand, dust, etc.—which, when combined with the various different shades of color and character, make the possible combinations numerous and render it very difficult to duplicate exactly any particular bale which may be nearly exhausted.

Examination in the Markets

The method usually followed in the purchase of cotton for use in preparing practical forms of the official standards is as follows: A grade box is prepared with type to be matched. This is done by taking samples of the bale which is nearly exhausted and matching them closely against the standards. Each sample is prepared in the box as though it were part of a set for sale. A representative of the Department of Agriculture who is experienced in grading cotton takes this box with him to the markets for reference when selecting cotton. After examination is made and an apparent match is secured, samples from two sides and both heads of the bale are forwarded to the Department of Agriculture at Washington, so that comparisons may be made under the exact conditions under which the final inspection of the standards take place.

Preparation of Practical Forms

In preparing copies of the standards, cotton is taken from the bales and placed in cartons by men who become expert in this branch of the work. (See Fig. 3.) The workers are divided into groups or squads of two or three. Each squad has an accurate copy of the particular standard grade or grades upon which it is working. The copy is revised once or twice a week by comparing with a verified duplicate. Each standard box or grade, composed of 12 cartons, when finished is approved and initialed by all of the men in the squad.

After this the individual cartons are removed carefully from the grade box and the cotton is sewed in each carton, so that it will retain its original form. The boxes are not filled entirely, because otherwise the pressure of the lid on the surface of the types will gradually flatten them. Such pressure has a tendency to force additional leaf and foreign matter to the surface, thereby losing the appearance of the grade. After the sewing, the cartons are glued to the grade box in their respective places.

Semifinal Review

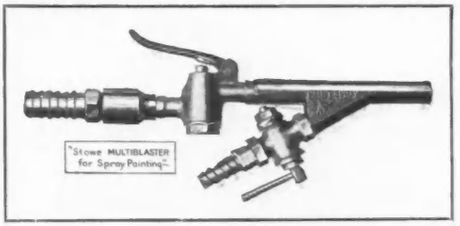
The grade boxes receive a semifinal review, being compared grade by grade with a verified duplicate of the standards. Then a full set is placed on the tables with the newly-prepared grades for a preliminary review, corrections being made if necessary. This examination is made by experienced men, the group usually including one or two of the men composing the final inspection committee.

Final Inspection

The final inspection is made by a committee of at least five expert cotton graders, four of whom must agree to each box before it is approved as a true copy of the official standards. This reviewing is done from two distinct points of view. First, the set is reviewed by the committee while standing on the floor alongside the tables on which are the grade boxes. It is again reviewed with a part of the committee on an elevated platform, which runs parallel to the tables holding the boxes. (See Fig. 4.) This gives a view from a distance of about 8 to 9 feet. The purpose of the latter is to get a perspective of each box and of the full set, thus enabling the inspectors to examine the whole set more comprehensively, especially with regard to the steps between the boxes. The final inspection is made only when the light is satisfactory, none of this work being done on cloudy days.

Photographing

After the final inspection, each



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—by the use of the Niagara Paint Spray. In this time he can give that entire area a thorough coating equal to two or three coats by brush! And aside from the time saved by eliminating the extra coats, the "man behind the gun" operating a Niagara Portable spray can do six times as much painting as a brush worker.

There is Less Paint Wasted

by this method, and the fact that the paint is drawn into the spray by suction keeps the ingredients stirred up and aids in obtaining a uniform coat, also applying all preserving properties of the mixture.

May we send you via Parcels Post a Niagara Paint Spray on **10 days' trial?** Ready for instant attachment to your air-lines—paint syphoned from any convenient container—**Price $12.00,** F.O.B., BUFFALO. Shipping weight 3 lbs. Requires 40-50 lbs., air pressure.

"The man behind the gun"
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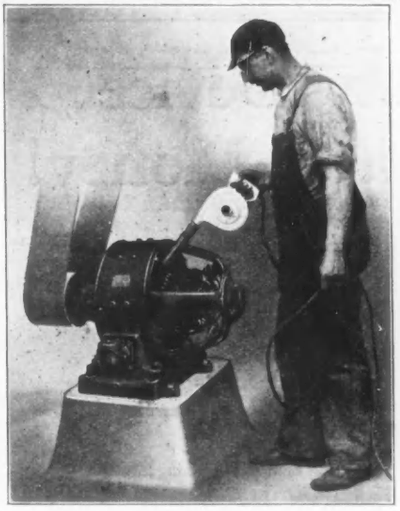
Geo. M. Stowe, Jr., Manufacturer
Forest and Niagara Sts., Buffalo, New York
Makers also of Stowe Multiblasters for Sand Blasting

Niagara Paint Spray



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Note toggle switch in handle.
Well Balanced.
Examine cut of Blower carefully.
Wires from motor to handle in metal tubing.
Highest grade BALL BEARINGS.
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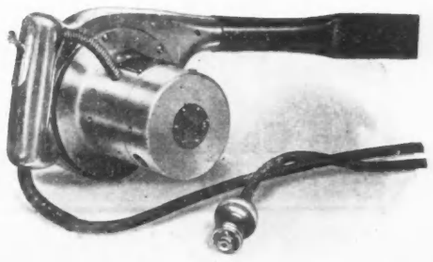

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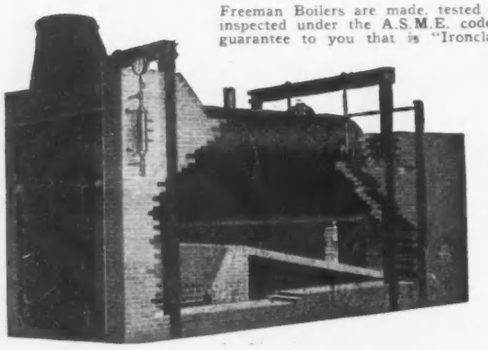
352 Atlantic Ave.
Boston, 9 Mass.



Freeman Boilers are made, tested and inspected under the A.S.M.E. code—a guarantee to you that is "Ironclad."

Think of Your Boiler Differently

Regard your boiler as an employee—who has promised to do his work efficiently and faithfully.

Is he proving worthy of the trust placed in him? He is—if he happens to be a Freeman Boiler, for Freeman workmanship is synonymous for quality.

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We are prepared to handle special requirements in boiler construction, and will build anything in the line of steam boilers you may specify, provided it does not conflict with our knowledge regarding safety.

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Water Tube Boilers
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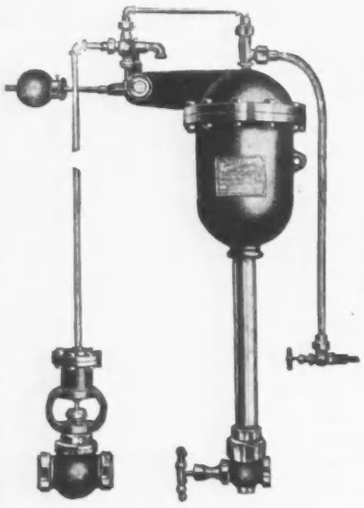
HOUSTON, TEXAS, Southern Pacific Building
DALLAS, TEXAS, 2001 Magnolia Building
DENVER, 435 Seventeenth Street
SALT LAKE CITY, 705-6 Kearns Building
SAN FRANCISCO, Sheldon Building
LOS ANGELES, 404-406 Central Building
PORTLAND, ORE., 805 Gasco Building
SEATTLE, L. C. Smith Building
HAVANA, CUBA, Calle de Aguiar 104
SAN JUAN, PORTO RICO, Royal Bank Building
HONOLULU, H. T., Castle & Cooke Building

A Safety Device Which Saves Money!



It is unusual that a safety device should, in addition to its major function, effect an annual yearly economy.

The Vigilant Feed Water Regulator

is a positive preventative against the danger of low water in the boiler, the principal cause of boiler explosions. The uniform water feed also makes possible an annual fuel saving ranging from 6 to 15%.

This combination is worthy of your investigation. Let us send you particulars.

The Chaplin-Fulton Mfg. Co.
28-34 Penn Ave. Pittsburgh, Pa.

"Not a Single Failure"

POWELL "PILOT" GATE VALVES

Iron Body with Steam Bronze Trimmings, or All Iron

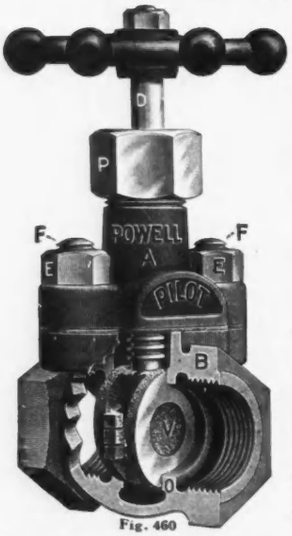


Fig. 460

Simple in construction having two BRASS discs with ball and socket back, insuring tight closing and easy opening.

ECONOMICAL and RELIABLE

WORKING PRESSURE UP TO 100 LBS.

Discs can be taken out and refaced whenever necessary, making the valve almost everlasting.

Write for Circular

THE WM. POWELL CO.
DEPENDABLE ENGINEERING SPECIALTIES.
CINCINNATI, O.

grade box is photographed. Since the photographs are the same size as the types of cotton, if any appreciable change takes place later in the disposition or quantity of the foreign matter on the surface of the cotton, it is apparent on comparison with the photograph. At the same time when these photographs are made, each of the sets is given a number which is photographed with the cotton in each box of that set. The photograph is then compared with the original cotton in the grade box which it represents, in order to make sure that each particle of foreign matter appearing on the surface of the cotton is represented accurately in the photograph. The date of issue, the signature of the Secretary of Agriculture, and the official seal of the Department of Agriculture are placed on each photograph, and it is mounted in the cover of the box to which it belongs.

The Working Set

The set of the standards which is used in the final comparison of new sets is used for no other purpose. Because of the bleaching effect of the light and because particles of dust settle on the surface of the working set when the boxes are open during the comparisons, this set is examined and compared very carefully each Monday in order to verify the fact that it is an accurate copy of the original. As often as thought necessary, a vacuum set is opened and compared with the working set.

Conditions of Sale

To insure the accuracy of practical forms of the standards in the hands of the public, which in time would undergo certain mutations, the period for which practical forms of the standards are valid is fixed at 18 months beginning with the date of certification, and the date of the expiration of each box is shown on the photograph. In addition, purchasers of the practical forms of the standards agree that they will be held subject to inspection by the Secretary of Agriculture or his representatives. This inspection may be made on any business day between the hours of 9 a. m. and 4 p. m. It is also agreed that the certificate of grade may be cancelled when for any reason the box does truly represent the Official Cotton Standards of the United States. If any photograph has been altered or mutilated the certificate may be cancelled. It is further stipulated that the standards will be held and used subject to such rules and regulations as the Secretary of Agriculture may promulgate in accordance with the provisions of the United States Cotton Futures Act.

Shipment of Practical Forms

When all of the boxes have been prepared, each is wrapped with heavy manila paper, sealed with wax, and the grade and number of the set to which it belongs are marked on the outside in order to prevent any error in shipment. The grade boxes are taken to the shipping room and there packed in heavy corrugated-board shipping cases, which are constructed to fit a set of nine grade boxes and which are protected by wooden strips. These crates are so made that they can not conveniently be inverted and are provided with handles for convenience in moving. The number of the set is marked on the outside of the case, which is stenciled on the top "Handle with Care" and "Destructible; This Side Up."

Care of Practical Forms

In order to preserve the original appearance of the sets of standards, the greatest care should be exercised in handling them. For protection in shipping, each box of the white grades is provided with a removable cover of cardboard, which is held in place with metal caps. Upon receipt of a shipment, these covers should be permanently removed and the boxes set away for a period of 48 hours. In this time the cotton in the box will resume its normal density and appearance.

Each box should be kept right side up and should be handled gently; otherwise, leaf and other extraneous matter on the surface will become disturbed. The box should be kept away from excessive heat, moisture and light.

The boxes should be kept closed and should be opened only when necessary. The covers should be raised and lowered slowly and with as much care as possible. If the cover is repeatedly lifted quickly, the surface of the cotton will break gradually, allowing small particles of lead to sift through the cotton and disappear.

Great care should be exercised in handling dusty or low-grade cotton when the boxes are opened, and under no circumstances should the cotton samples be compared by holding them over the official cotton types in the box. Small amounts of leaf or dust falling on the official types from time to time will make the practical forms unfit for use and will destroy their correctness as copies of the Official Cotton Standards. If the boxes are placed on a table which is tilted at an angle of about 45°, it is much easier to make comparisons than if the boxes are placed on a level table. This will probably reduce the tendency to hold the sample over the box.

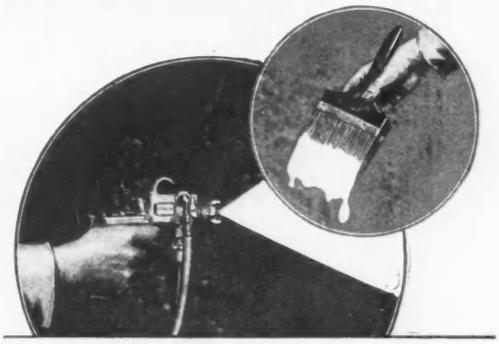
Although it is essential that the types be protected as much as possible, the use of glass covers can not be recommended, since the cotton when seen through the glass does not have the same appearance as to color and character.

Prices of Sets of Copies

Full sets of the practical forms of the Official Cotton Standards for the nine white grades of Upland Cotton are sold at $45, and for the eleven colors at $55.

The charge for fractional sets of the standards has been fixed at $5 per box. An allowance of $1 is made for each old box returned.

Forms for use in ordering copies of the standards are furnished upon application.



Comparing Costs Shows 80% Saving

IT ISN'T the cost of materials that determines the economy of painting mill walls and ceilings or village homes —it's cost of labor.

When your painting is done with the DeVilbiss Spray-painting System it is done 5 times faster than hand-brushing—thereby reducing labor costs 80%. Besides effecting this big reduction in labor cost, the sprayed coating covers every bit of surface thoroughly and uniformly, without drips and spatters, and has twice the hiding power of a single brushed coat.

We should like to mail you further facts on the economies and advantages of painting the DeVilbiss way.

THE DeVILBISS MFG. CO., 236 Phillips Ave., Toledo, Ohio

DeVilbiss
Spray-painting System

Stop Fires at the Start

A fire may start in your mill tomorrow in some place that is hard to get at, near the ceiling, between floors or in a shaft.

If you have one of our extinguishers handy your men can stop the fire before it spreads. The extinguisher sends a stream of gaseous water to places that are hard to reach, extinguishing the flames quickly and completely.

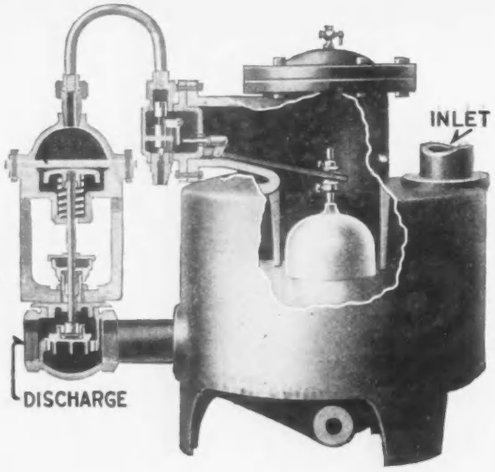
Anyone can operate our Buffalo Fire Extinguisher. Just invert the copper cylinder and play the hose on the fire. By placing Buffalo Extinguishers at convenient places in your mill you will guard yourself against the disastrous results of a large fire.

A booklet and prices will be sent on request.

Buffalo Fire Appliance Corp.

44 Central Avenue **Buffalo, N. Y.**

We also make motor driven fire apparatus for all needs



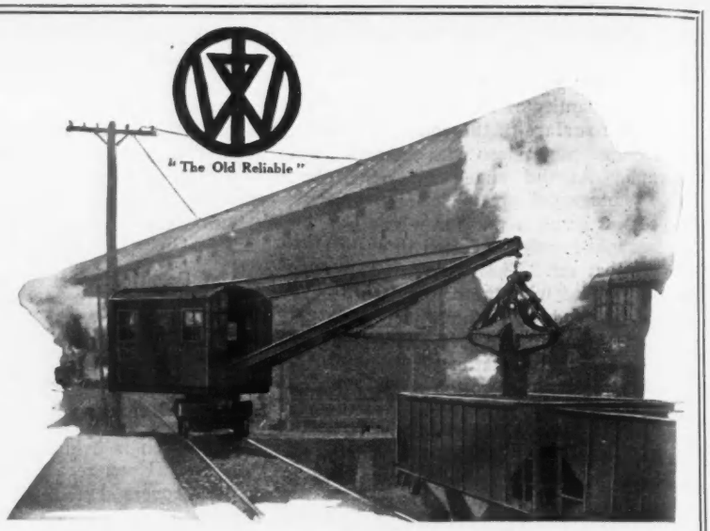
A steam trap you can rely upon

The Williams High Pressure Steam operated trap can be depended upon to handle unusually large quantities of condensate at any given working pressure. A feature of interest to you is the Discharge valve, which is located outside the trap body, and is easily accessible at all time. This valve is always either wide open or dead shut.
Send for illustrated catalog describing this steam trap and other Williams engineering specialties.

THE WILLIAMS GAUGE CO.
Pittsburgh, Penna.

Selling Agents

Geo. W. Stetson, 141 Milk St., Boston.
W. K. Sewdon, 280 Madison Ave., New York.
Sherman Eng. Co., 254 So. 15th St., Philadelphia.
R. D. Bliss & Co., 343 So. Dearborn St., Chicago.
E. L. Sweeting, 1137 Guardian Bldg., Cleveland.
J. W. Shea, Fullerton Bldg., St. Louis, Mo.
Geo. E. Swett & Co., Rialto Bldg., San Francisco, Cal
F. L. Drew, Dallas, Texas, and McAlester, Okla.
Theo. B. Whitted & Associates, Charlotte, No. Car.



You use the most efficient machinery in your plant but what about your coal handling and heavy hoisting?

INDUSTRIAL CRANES

In use in thousands of installations are proving big savers of handling time and costs.
4 or 8-wheel types with either steam, electric or gasoline power.
IT SURE IS WORTH INVESTIGATING
Let us send you our Golden Anniversary catalog

INDUSTRIAL WORKS
BAY CITY MICHIGAN
NEW YORK CHICAGO PHILADELPHIA DETROIT
Sales Engineers in All Principal Cities
1873 Builders of Cranes For 50 Years **1923**

Century

Type RS Induction

SINGLE PHASE MOTORS

Have a most enviable reputation for "Keep-a-Running" ability.

The dampness and moisture always prevalent around refrigerating equipment, pumps, carbonators, etc., does not effect this ability to Keep-a-Running.

Temperature rise not more than 40° centigrade

They Keep-A-Running

CENTURY ELECTRIC COMPANY
ST. LOUIS, MO., U. S. A.

Sales Offices and Stocks in Principal Cities

Tycos
TEMPERATURE INSTRUMENTS
INDICATING - RECORDING - CONTROLLING

prevent injury to material in process due to over-heating and also insures the manufacturer of uniform and regular finished results.

This is accomplished by installing *Tycos* Indicating, Recording and Controlling Instruments to automatically maintain the desired temperature on any process. *Tycos* saves steam by eliminating guess work control.

Write for literature—mention the fact that you want to know about slasher worn temperature and pressure control.

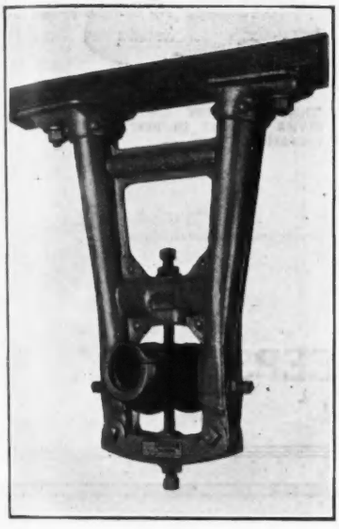
Taylor Instrument Companies
ROCHESTER N.Y.
There's a Tycos or Taylor Temperature Instrument for Every Purpose

NEW MACHINERY AND PROCESSES

Shafting Hanger

Pressed Steel Type — Combines Graceful Lines with Strength

The American Pulley Co., Philadelphia, has brought out a pressed steel shafting hanger of new design. This product will be called the "American" hanger. It will be noted in the accompanying illustration that this product is made entirely of pressed steel and is of the four point setscrew type. It is also of the "parting" variety; that is, it has a swing yoke which readily permits the removal of shaft or bearing. Officials of the American Pulley Company state that in designing the hanger they had two objects in mind: first, to produce a hanger which would be adequately strong for any reasonable service; and second, to turn out an article with graceful, easy lines as well as strength.



"American" Pressed Steel Shafting Hanger

The main frame of the hanger is constructed of two stampings placed face to face, with inturned flanges extending the entire length of the leg. They have adopted somewhat the same general idea that is characteristic of the rim of the "American" pulley. These inturned flanges provide unusual strength and rigidity. The cross-brace is integral with the legs themselves, making the entire frame rugged and serviceable.

All bolts, nuts and setscrews are of standard dimensions. There is not a special bolt or nut about the hanger and all bolts and nuts are accessible and convenient for replacement. The four bearing nuts on the setscrews which support the shaft load are flush with the inside edge of the shaft opening, thus permitting a minimum amount of overhang for the setscrews themselves. The foot of the hanger is simple but strong, made of heavy cold drawn seamless metal, and is ample to sustain pressure of the clamping bolts or lag screws. Attachment of the foot to the oval frame leg is through the seamless flange on the foot and is by means of heavy rivets, carefully driven.

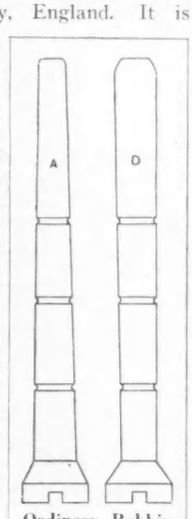
The American Pulley Co. reports that a series of tests at its own shop, both by means of testing apparatus and in service, has proved to the company's satisfaction that the hanger is amply strong enough for all ordinary working loads, plus a good margin of safety. Special attention is called to the appearance of the hanger, which is unusually attractive. The frame is smooth, with rounded surfaces that eliminate dust pockets and projecting parts. All joints match accurately and well. The hanger is made in regular drops, 7 to 24 inches, and is offered for all shaft sizes up to three inches.

The American Pulley Co. offers with its hanger a babbitted bearing box of a neat and workmanlike appearance. The babbitt used is of good quality and the bearing is broached accurately to size. Capacious oil reservoirs are provided. The hanger is well covered by patents, some of which have been allowed, while others are pending. The manufacturers have always guaranteed their belt pulleys and now authorize the statement that the same guarantee will be back of the new steel hanger.

New Bobbin

Taper Reversed to Prevent Yarn from Slipping

A bobbin for woolen mills which is claimed to have advantages for spinning and weaving is being manufactured by Williamson Bros., Savile Town, Dewsbury, England. It is known as the Dixon "non-slough bobbin from the fact that it checks any tendency for the filling to slip or slough off in weaving. The shape at the top is also claimed to facilitate the spinning of even yarns. The difference between the regular bobbin (A) and the "non-slough" bobbin (D) is shown in the illustration. The reverse taper is at once apparent.



Ordinary Bobbin at A: Reverse Taper Bobbin at D

The taper of the new bobbin can be varied to suit different counts and qualities of material. For instance, assuming a 7 inch bobbin, the diameter at the base could be 19-32 of an inch, and 21-32 of an inch at the top. This is suitable for average woolen yarns. For blankets the diameter at the base might be 20-32 of an inch and 23-32 of an inch at the top. For fine work the diameter at the base might be 20-32 of an inch and 21-32 of an inch at the top. The inventor claims that by adopting this reverse taper for woolen filling bobbins sloughing is entirely prevented.

The new bobbin is made with a very rounded nose, which it is said is of assistance in spinning, as it avoids the breakage of threads that sometimes occurs when the threads hesitate on the ends of flat-nosed bobbins during backing off. The inventor also claims that with this new bobbin a more even thread is obtained, and that the yarn is more firmly wound on the bobbin the nearer it gets to the top.

RECENT TEXTILE PATENTS

Cotton cleaning machine. 1,461,562. E. H. Rooney, Providence, R. I.

Dyestuffs and making same, Indigoidic. 1,461,435. H. Staudinger, Zurich, H. Veraguth, Basel, and R. Tobler, Basel, Switzerland.

Knitting machine, circular rib. 1,461,693. T. C. Bromley and W. Cavers, Leicester, England.

Knitting machines, Stop motion for. 1,461,172. W. T. Barratt, Bennington, Vt.

Looms, Reed for. 1,461,547. P. A. Wagner, Jersey City, N. J.

Spool head. 1,461,480. V. Gero, Philadelphia, Pa.

Spooling machine. 1,461,205. L. Berzon, Philadelphia, Pa.

Thread, Machine for treating skeins of. 1,461,330. M. Santalo, Barcelona, Spain.

Winding and hanking machine. 1,461,705. A. E. Dunham, Brockton, Mass.

Winding machine. 1,461,641. E. Zindel, Erlenbach, Switzerland.

Yarn tension device. 1,461,536. J. O. McKean, Westfield, Mass.

Braiding machine, Carrier controlling device for. 1,462,213. A. Peterson, Winthrop, Mass.

Cotton, wool and other fibres, Machine for opening and cleaning. 1,462,458. W. Youlten, Hove, England.

Dyeing, Clamp for producing mottled skein. 1,461,822. H. Epstein, New York City.

Edging or border finish. 1,462,372. J. M. Merrow, Hartford, Conn.

Elastic fabric. 1,462,279. V. Guinzburg, New York, N. Y.

Fabrics, Machine for uniting looped. 1,462,367. P. P. LaMontagne, Bourbonnais, Ill.

Fabrics, Means for finishing. 1,462,172. A. A. Grundy, Philadelphia, Pa.

Fibrous materials, Machine for opening and cleaning. 1,462,459. W. Youlten, Hove, England.

Loom, Weft replenishing. 1,461,861. N. Caron, Nashua, N. H.

Loom, Feeler mechanism for. 1,461,872. E. T. Gilman, Lowell, Mass.

Looms, Tuft yarn spool for. 1,462,192. H. D. Clinton, Johnson City, N. Y.

Spindles, Centering means for 1,462,215. F. G. Smith, New Bedford, Mass.

Yarn, Device for guiding, clearing and tensioning. 1,462,292. J. O. McKean, Westfield, Mass.

French Flax Subsidy

Plan to Check Decline in Acreage in Northern France

Washington, D. C.—A proposition recently has been submitted to the Chamber of Deputies to subsidize flax culture as a means of stimulating French production to an appreciable extent, according to a report from Consul Herbert O. Williams, at Havre, received by the Department of Commerce.

The estimated flax requirements of France are from 90,000 to 100,000 tons, an amount which calls for the produce of about 150,000 acres, and as only 15,000 tons are harvested, heavy importations are necessary.

In the region of Havre, as in other sections of the country, the area planted to flax has greatly decreased lately, and now falls far short of its share of the needs of the national linen spinning industry, although the output of Normandy and Brittany is much in demand at nearby markets.

The proposed law provides for annual premiums to flax growers from 1923 to 1928, a premium of 250 francs per hectare (hectare—2,471) to be granted to flax raisers converting their own product as well as those having their crops converted in French factories.

Other sections of the act provide for supplementary premiums, control, and methods of payment.

Austrian Cotton Industry

Austria has 37 cotton mills containing 1,116,000 spindles, which, operated to their full extent can produce 35,000,000 kilos of yarn per year. Beside manufacturing gray yarn for the weaving and embroidering trades, bleached yarn, variegated yarn and thread are produced. The mills are now working at less than 50% of capacity, Vice Consul C. M. Ravndal reports, as present economic conditions have created an unprecedented crisis in the Austrian textile industry, and there is a severe stagnation of yarn sales.

When it comes to STEAMERS
You Specify
LANE
With No Uncertain Sound

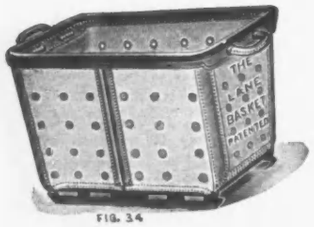


FIG. 34

Oblong Steaming Basket

Frequent perforations insure free and uniform steaming.
Durability unequalled.
Made also round or square.

The Same Sagacity Applied to Your Other Less Exacting Basket Requirements Will Net You An

EQUAL ULTIMATE SAVING

FIG. 22.

Round Taper Style
This and other shapes and styles adapted to every mill operation.

A Style For Every Use

W. T. LANE & BROTHERS, Manufacturers, POUGHKEEPSIE, N. Y.

This Is
CHAPMAN
ELECTRIC NEUTRALIZER
for Card Rooms

NO water, vapor, steam or heat used. No rust.
NO leaks, clogging, overflows or freezing.
NO regulators, compressors, pumps, valves or piping.

Nothing But the simplest electrical fixtures and wiring.

Nothing Consumed but a little electricity;—a *very* little.

Nothing to do but close a switch: 100% effective instantly.

Sold by
M. S. PENNELL
127 Federal St., Boston, Mass.
Manufactured by
CHAPMAN ELECTRIC NEUTRALIZER CO.
PORTLAND, MAINE

Of What Does This Remind You?

SUPPOSE that you had on hand when your first tap was broken a commercial device built specially to remove the broken pieces of tap, a commercial device not a home-made article, would you not have saved a great deal of time?

Write Us for Information

The Walton Company
310 PEARL STREET HARTFORD, CONN.

VOGEL
PATENTED

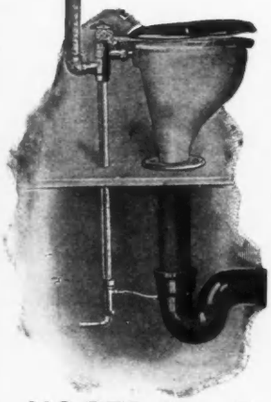
FROST-PROOF CLOSET

The most durable and economical water closet *for mill villages.*

Over 300,000 in use in all climates.

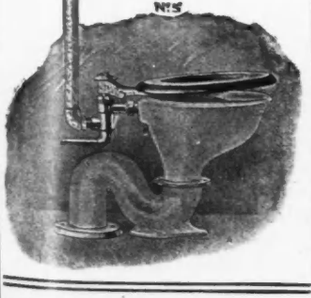
Requires no pit. Simplest water closet made.

No. 1.



VOGEL No. 5 FACTORY CLOSET

Has the simplest and most durable valve ever put on *a water closet.*



JOSEPH A. VOGEL CO.
WILMINGTON, DEL.

MILL NEWS

NEW MILLS

Cotton

NORTHBORO, MASS. Alfred Blackburn, Worcester, Mass., who recently purchased the Blair Building on East Main street, is converting it into a tape mill. Lewis Smith, a local contractor, has the contract to make the necessary alterations and repairs.

*SAND SPRINGS, OKLA. According to present indications the Sand Springs Cotton Mill will start operations about Sept. 1. Between 1,600 and 2,000 operatives will be needed to keep the mill running day and night.

*NEW BRAUNFELS, TEXAS. The Planters and Merchants Mills, Inc., is nearing completion and will begin operation soon, manufacturing standard staple ginghams in plaids, checks, stripes and plain colors. Included in the mill equipment is a complete dyeing and finishing plant. The mill will employ over 200 when running one shift. Power will be furnished from a hydro-electric plant on the Guadalupe River, developing approximately 440-horsepower at a minimum flow of the river. Officials of the corporation include S. M. Ransopher, president, and Joe D. Gilliland, secretary. R. S. Porter, formerly superintendent of the Lancaster Mills, Clinton, Mass., will be superintendent; Capt. R. T. Staples, recently associated with the Franklin Process Co., Providence, R. I., will be dye master, and Howard McKenna, who was with the Lancaster Mills, will be overseer of weaving.

Wool

*PAWTUCKET, R. I. The Spencer Worsted Co., recently incorporated, plans to install 1,500 spindles in their plant at 381 N. Main street, and start operations shortly, spinning, twisting and spooling fine worsted yarns. Moses Spencer will be general manager.

*GREENVILLE, S. C. Within the last few weeks all of the principal contracts for the new plant of the Southern Worsted Co. at Greenville have been placed by Lockwood, Greene & Co., engineers. The principal construction contract for the manufacturing buildings was placed with the Gaston Construction Co. of Gastonia, N. C.; a contract for 80 houses for operatives and four houses for overseers was placed with the Minter Homes Co. of Greenville. Various other contracts have been placed for building equipment and machinery. Side track has been installed and foundations for the mill are now being constructed. Progress is very satisfactory and it is hoped to have this plant in operation early in 1924. J. F. Syme, general manager of this company, is now spending part of his time in Greenville and expects to locate there permanently in the fall.

Knit

WALNUTPORT, PA. E. H. Bittner, proprietor of the Pennsylvania House, has arranged for the establishment of a local hosiery knitting mill. Harry J. Snyder will act as manager.

PROVIDENCE, R. I. The Atlantic Knitting Co. is a recent establishment opened at 728 Westminster street by Barnett Salmanson, to engage in the manufacture of knitted products.

SUMTER, S. C. J. E. Jackson, Sumter, has tentative plans under consideration for the installation of a local knitting mill. Inquiries will soon be made for equipment.

ENLARGEMENTS AND IMPROVEMENTS

Cotton

*ALEXANDER CITY, ALA. The Allis-Chalmers Mfg. Co., Atlanta, Ga., have the contract for installing motors, transformers and switchboard in the new building of the Alexander City Cotton Mills. J. E. Sirrine & Co., Greenville, S. C., are the engineers.

*HUNTSVILLE, ALA. Architects and engineers have been engaged to prepare plans and specifications for the large addition to the Lincoln Mills of Alabama mention of which was made last week.

*PUTNAM, CONN. The electrical power and lighting equipment in the new plant of the Adams Mfg. Co. is being installed by the Chace Electric Co., Fall River, Mass.

*HOGANSVILLE, GA. Lockwood, Greene & Co., engineers, have closed a contract with the La Grange Lumber & Supply Company of La Grange, Ga., for the construction of 128 operatives' houses and a superintendent's house for the International Cotton Mills here. This will provide an extension to the present village and housing facilities for the new Stark Mills now under construction.

*LA GRANGE, GA. The contract for motors, transformers and switchboard for the 10,000 spindle addition to the Dunson Mills has been awarded by J. E. Sirrine & Co., engineers, Greenville, S. C., to Allis-Chalmers Mfg. Co., Atlanta, Ga.

*LEWISTON, ME. Work is progressing rapidly on the new seven-story 58x80-ft. addition to Mill No. 2; and the additional four stories, 72x120-ft., on top of Mill No. 4, at the plant of the Hill Mfg. Co. The work, being done by the McNally Building Co., Framingham, Mass., will cost about $200,000. They have awarded the plumbing contract to J. A. Murphy, also of Framingham.

*FITCHBURG, MASS. The foundation is in for the addition to the office building of the Parkhill Mfg. Co. The new work, estimated at $20,000, is being done by the W. J. Handley Co. of this city.

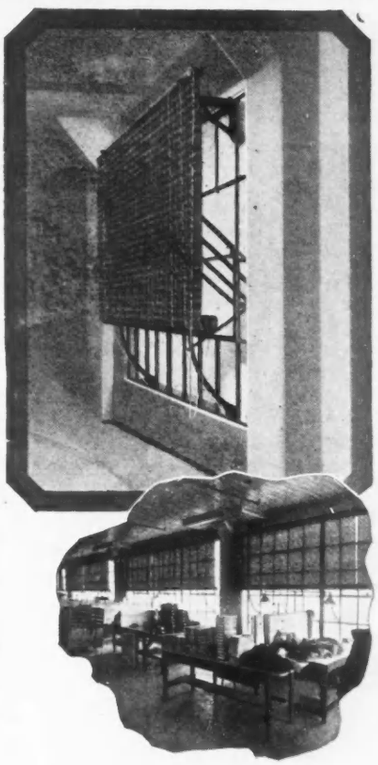
NEW BEDFORD, MASS. Repairs are being made to the exterior of the No. 1 Potomska Mill. This mill was erected in 1872.

PASSAIC, N. J. Members of Titus, Blatter & Co., New York City, have purchased a jacquard weaving mill in this city to manufacture sunfast drapery and upholstery fabrics. The plant will operate under the name of Jacquard Weaving Association.

CHERRYVILLE, N. C. Rhyne-Houser Mfg. Co. has declared an extra dividend

*Indicates previous mention of project.

RA-TOX



Airy, Well-Lighted Plants Lead in *Economical Production*

There are few factory managers who care to operate under the handicap of poor light and bad ventilation this year. Keen competition puts a premium on more economical production. Individual capacity shows a marked gain when conditions are right. Multiply this by the number of workers you employ and think of the difference it is bound to make in your output.

RA-TOX WOOD FABRIC VENTILATING SHADES

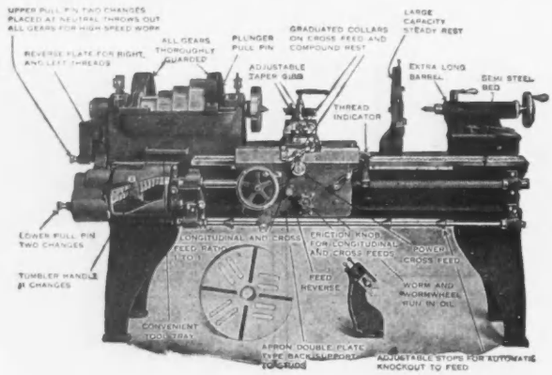
Hundreds of factories—in every line of production—have adopted RA-TOX shades. Glare and heat that fatigues workers and harms materials and equipment are eliminated. Yet from 30% to 40% more light and air are secured than with other means of shading.

With average care RA-TOX last for 25 years. They are constructed of permanently stained wood strips woven parallel with hard twist seine twine. And they are hung so that they do not interfere with center swing ventilators.

Attractive, business-like and easy to operate. RA-TOX cost no more than the ordinary kind. Let us give you full particulars about the low-cost of equipping a factory, school, hospital or any other institution. Merely send us window specification or blue prints.

Hough Shade Corporation
Industrial Shade Division
302 Mills Street Janesville, Wis.

RA-TOX


UPPER PULL PIN TWO CHANGES PLACED AT NEUTRAL THROWS OUT ALL GEARS FOR HIGH SPEED WORK
REVERSE PLATE FOR RIGHT AND LEFT THREADS
ALL GEARS THOROUGHLY GUARDED
PLUNGER PULL PIN
GRADUATED COLLARS ON CROSS FEED AND COMPOUND REST
LARGE CAPACITY STEADY REST
ADJUSTABLE TAPER GIBS
EXTRA LONG BARREL
SEMI STEEL BED
THREAD INDICATOR
LOWER PULL PIN TWO CHANGES
TUMBLER HANDLE 8 CHANGES
LONGITUDINAL AND CROSS FEED RATCHET STOP
FRICTION KNOB FOR LONGITUDINAL AND CROSS FEEDS
POWER CROSS FEED
FEED REVERSE
WORM AND WORMWHEEL RUN IN OIL
CONVENIENT TOOL TRAY
APRON DOUBLE PLATE TYPE BACKGEARED TO FEED
ADJUSTABLE STOPS FOR AUTOMATIC KNOCKOUT TO FEED

An Ideal Lathe for the Mill Repair Shop

The 16" belt-driven "Cisco" shown above is especially adapted to textile mill service. Though powerful and sturdy, it is compact and remarkably simple to operate.

It is "second nature" for this machine to turn out a job in "*minutes*" that used to take *hours*. It greatly reduces the loss in production due to shut-downs.

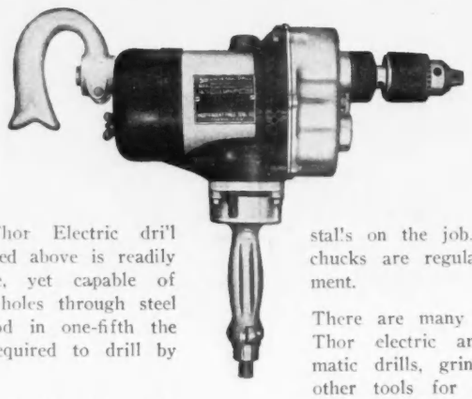
Mills that formerly had repairs done by outside concerns have paid for a "Cisco" in the savings it produced.

Write for catalog

The CISCO MACHINE TOOL CO.
CINCINNATI, OHIO

Thor

Small yet powerful



The Thor Electric dri'l illustrated above is readily portable, yet capable of boring holes through steel or wood in one-fifth the time required to drill by hand.

It operates from the nearest lamp socket, and never stal's on the job. Jacobs chucks are regular equipment.

There are many types of Thor electric and pneumatic drills, grinders and other tools for mill use. Catalog and prices on request.

INDEPENDENT PNEUMATIC TOOL CO.

General Office	Eastern Office
600 W. Jackson Boulevard, Chicago, Ill.	1463 Broadway, New York, N. Y.

BRANCHES

Birmingham, Ala.			London
Boston, Mass.	Montreal, Que.	St. Louis, Mo.	Paris
Cleveland, Ohio	Philadelphia, Pa.	San Francisco, Cal.	Tokio
Detroit, Mich.	Pittsburgh, Pa.	Toronto, Ont.	Yokohama

"BIGELOW" MAPLE FLOORING

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Michigan Hard Rock Maple

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"CHIEF BRAND" HARDWOODS

Mill News—Continued

of 5% on its operations for the last six months, this being additional to 3% paid last autumn. Management is reported contemplating improvements and machinery additions.

HENDERSON, N. C. The electrical equipment in the Harriet Cotton Mills is being installed by the Westinghouse Electric & Mfg. Co., Charlotte, N. C. Specifications are out and bids will soon be called for the construction of new boiler room and mill extension. J. E. Sirrine & Co., Greenville, S. C., are the engineers in charge.

MOORESVILLE, N. C. A. F. Bruton, superintendent of the Dacotah and Nokomis Cotton Mills of Lexington, N. C., has purchased a controlling interest in the Dixie Cotton Mills, Mooresville, at about $100,000. An addition of 100 x 150 ft. is now being erected. Other improvements, including the addition of looms are planned. E. W. Brawley, who has owned the controlling stock for some time, will retire.

*THOMASVILLE, N. C. J. E. Sirrine & Co., engineers, Greenville, S. C., have awarded contract for heating equipment in the new plant of the Amazon Cotton Mills to the Parks-Cramer Co., Charlotte, N .C.

FORT MILL, S. C. The Minter Homes Co. of Greenville, S. C., who have the contract for the erection of 66 cottages at Mill No. 1, of the Fort Mill Mfg. Co., have just begun work on the last eight. About half of the cottages have been completed and the others will be finished by the end of August.

*GREENVILLE, S. C. The General Electric Co., Atlanta, Ga., will install 600 loom motors, switchboard and sub-station equipment in the weave shed extension of the Duncan Mills. J. E. Sirrine & Co., Greenville, S. C., are the engineers in charge.

*LYMAN, S. C. Good progress is being made by construction forces under the direction of Lockwood, Greene & Co., engineers of Boston, at the big, new plant of Pacific Mills here. Approximately 100 operatives' houses are in various stages of completion and it is expected that the total number of 300 houses will be finished before the end of the year. About 800 tons of steel have been delivered at the job and erection is proceeding rapidly. Bids will be taken within a few weeks by the engineers to cover the construction of a superintendent's house, seven overseers' houses, a twelve-room school house and a community building.

*KNOXVILLE, TENN. The $200,000 addition being constructed here for the Cherokee Spinning Co. is nearing completion. Machinery to be installed shortly will represent an additional investment of approximately $300,000. M. G. Thomas, president of the company, states the new addition will be a weaving and finishing department, and that the mill will be the only one in Knoxville producing cotton dress goods.

JANESVILLE, WIS. The Hough Shade Corp. is planning to double the output of their plant when the new weave room, now under construction, is completed.

** Indicates previous mention of project.*

Wool

LOUISVILLE, KY. The Louisville Woolen Mills have plans nearing completion for the construction of a new one-story and basement mill addition, 45x95 ft., estimated to cost approximately $42,000. W. E. Biggs, Holston National Bank Building, Knoxville, Tenn., is structural engineer in charge.

CLINTON, MASS. The local branch of Albert Pick & Co., Chicago, carpet manufacturers, which has been in operation but a few months, has already outgrown its quarters in the Howard Building and it has been decided by the owners to build a new mill. If a suitable site cannot be found in Clinton a location in some other city or town in Massachusetts will be selected. The branch gives employment to 250 and if a new mill is built in the town it will employ about 800 people.

LAWRENCE, MASS. The Wood Worsted Mill of the American Woolen Co. has construction under way on an addition to its boiler plant.

BRISTOL, N. H. A new set of cards is being installed in the plant of the Dodge-Davis Mfg. Co.

WOONSOCKET, R. I. Bids closed July 31 for the erection of a superstructure for the addition to the mill of the Jules Desurmont Worsted Co. on Water street. It will be of reinforced concrete, fireproof construction, four stories and basement, 130x110 ft. H. M. Haven & Hopkins, Boston, Mass., are the architects.

WOONSOCKET, R. I. Plans are being made for the construction of a one-story brick machine shop with a connecting tunnel for the French Worsted Co. on Hamlet avenue. W. F. Fontaine of this city, is the architect.

Knit

*CHICAGO, ILL. The Royal Knitting Mills will soon be settled in their new building on California avenue, where they will have more than double the amount of space formerly occupied. All modern improvements, including individual motors for operating knitting machines, are installed.

ATHENS, N. Y. The Thermo Mills are installing two new sets of cards and mules.

READING, PA. Reading Knitting Mills, Fourth and Elm streets, hosiery manufacturers, recently purchased by F. Y. Kitzmiller, are installing dyeing machinery in addition to their present equipment.

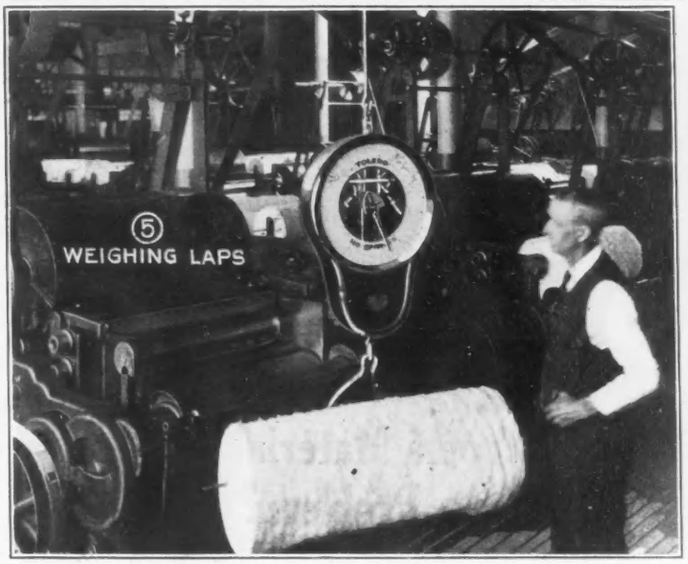
ENGLEWOOD, TENN. The Englewood Mfg. Co. is erecting a two-story addition, 100 x 40 ft., to its plant here.

MILWAUKEE, WIS. The Bradley Knitting Co. has purchased a tract of land, 295 x 600 ft., adjoining its Milwaukee plant. A warehouse, which will give 70,000 sq. ft. of additional storage space, is to be erected.

Silk

ALBANY, ALA. Capacity of the Albany Textile Co. is to be approximately doubled during the next few months by the construction of a mill duplicating the present plant, and with a capacity for 80 looms, officials of the company have announced.

HINTON, W. VA. Ryan & Bowers,



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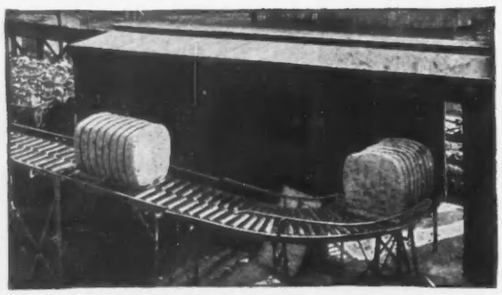

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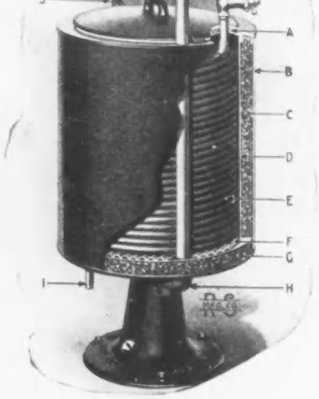

A supply of cold water is a necessary aid to production, but only if it is absolutely sanitary and safe. Otherwise it becomes a menace.

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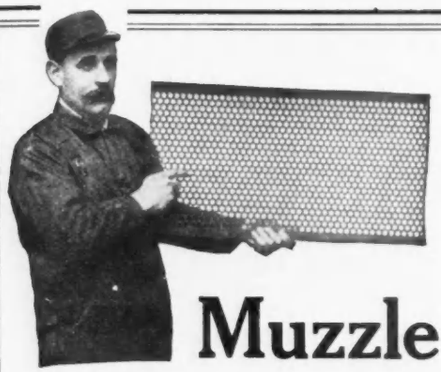

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perforated metal for centrifugals, carbonizing, bleaching, wool scouring and drying machines; all kinds of special sheet metal work in practically any metal.

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H & K material is perforated sheet steel—strong light and durable. It affords open view of all parts.

The Harrington & King Perforating Co.
639 North Union Avenue **Chicago, Illinois**
New York, 118 Liberty Street

Mill News—Continued

Allentown, Pa., are contemplating the erection of a silk mill here.

Miscellaneous

LEWISTON, ME. The Lewiston Bleachery & Dye Works have awarded a contract for the erection of a filtrating plant, with a capacity of 4,500,000 gallons, to Hungerford & Terry, of Philadelphia. Fuel oil in the water from industries further up the river makes the filter a necessity. Contract for a 40 x 200 ft. addition to their storehouse has been awarded to J .A. Greenleaf & Son, of Auburn.

*EAST BRAINTREE, MASS. The foundation has been laid for the additions to the bleacheries and power house for the East Braintree Bleacheries on Adams street. The additions will be three stories, 55 x 53 ft., and one story, 22 x 20 ft., respectively, brick construction, and will cost between $25,000 and $30,000.

GREENWICH, N. Y. The J. W. Bishop Co., Worcester, Mass., has been awarded the contract to erect an addition to the Dunbarton Mill (Barbour Flax Spinning Co.). It will be of brick, mill construction, 40 x 120 ft.

PHILADELPHIA, PA. The Fairhill Bleachery, Emerald and Cornwall streets, bleachers of yarn and tapes, have awarded contract to Knox-Landers Co., 1132 Vine street, for alterations in their plant, to cost about $1,000.

PHILADELPHIA, PA. The S & M Dye Works, Inc., 3419 Richmond street, dyers and bleachers of woolen and worsted yarns, have awarded contract to A. Raymond Raff, constructors, 1635 W. Thompson street, for alterations to their warehouse at Richmond and Schiller streets, to cost $3,000.

BELLEFONTE. R. I. Samuel Priest, treasurer and manager of the Imperial Printing and Finishing Co., has awarded a contract to the C. I. Bigney Construction Co., Providence, for the erection of a one-story automobile service and repair building, 190x300 ft., on Elmwood avenue, estimated to cost about $150,000.

*ASBESTOS, QUEBEC, CAN. Johns-Manville, Inc., Madison avenue and Forty-first street, New York, N. Y., has plans under way for the erection of a new mill for the manufacture of asbestos products, on local site. It will be 150x1000 ft. Ground will be broken in about 30 days.

FACT AND GOSSIP

BESSEMER, ALA. Tax exemption for a period of 10 years will be granted to new industries locating in Bessemer, according to an ordinance adopted by the city council last week. As a result an immediate campaign to secure new industries will be started by the Bessemer Chamber of Commerce.

GREENVILLE, ALA. Decision of the Alabama Power Co. to extend high powered lines to this city assures the early establishment here of a 10,000 spindle cotton mill, according to an announcement by the Greenville Commercial Club. Capital for the new industry will all be obtained locally, the officials of the club state.

UNION SPRINGS, ALA. The Southern Cotton Mill Co. which has been closed for about two years will resume operations this fall, employing 40 operators at the start. The superintendent, P. R. Underwood, has already arrived.

*HUBBARDSTON, MASS. James E. McWilliams, owner of the Hubbardston Woolen Mills, which were destroyed by fire on May 6, has decided not to rebuild. The mills were leased to the Hubbardston Woolen Mills, Inc., owned by Worcester, Mass., interests, at the time of the fire.

*MILLBURY, MASS. Interests, which recently took over the former Phoenix Mills, have started operations, dyeing and bleaching fine yarns and silks. J. H. Wilson, acting agent, says that when the mills are operating at capacity close to 100 hands will be employed.

NEWARK, N. J. John H. Meyer & Co., Inc., manufacturer of tire fabrics, etc., has leased its local plant at 708-720 Frelinghuysen avenue to the Western Electric Co., and will discontinue operations in this city. Most of the equipment in the three-story mill will be removed to the branch plant of the company at Frankford, Pa., known as the Delta Spinning Plant. It is stated that the branch of the business heretofore devoted to tire fabrics will be liquidated.

BROADALBIN, N. Y. Announcement was made last week of the purchase by the D. & K. Fibre Co. of the George Howe property adjoining the company's plant. It is said that property will be held for future development plans.

BROOKLYN, N. Y. The Commodore Knitting Mills, Inc., have moved from 253 Irving avenue to 187-195 Broadway, Brooklyn.

WASHINGTON, N. C. C. G. Morris, J. F. Buchman and associates are negotiating with silk manufacturers regarding plans for building a silk mill.

TUNKHANNOCK, PA. The Tunkhannock Worsted Yarn Co. has been sold to interests connected with N. B. Brooks of 185 Summer street, Boston. Pennsylvania charter has been applied for and the capitalization will be $50,000 at the beginning. The plant will be henceforth known as the Wyoming Worsted Mills and will manufacture worsted yarns for the knitted outerwear trade.

PAWTUCKET, R. I. The Potter Fine Spinners, Inc., of this city, have recently increased their capital stock from $800,000 to $1,100,000.

NEW BRAUNFELS, TEX. Harry Landa, president of the Landa Milling Co., is planning to discontinue the flour mill business and replace it with a hosiery plant.

TEXARKANA, TEXAS. Organization of a company capitalized at $500,000 for establishing a cotton textile mill here is well advanced, and it is expected that the mill will be put in operation next fall. The Texarkana Chamber of Commerce is back of the proposition, and details are left to a committee, composed of F. E. Pharr, chairman; W. R. Grim, N. P. Sanderson, E. W. Frost, T. L. Temple, Sr., J. A. Buchanan and Sam Alston, who have visited Dallas and other textile centers in Texas and have studied the methods of organization most successful. The aid of the Texas Chamber of Commerce has also been enlisted.

**Indicates previous mention of project.*

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Fig. 627 Fig. 629

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Literature covering the economy of Jewett *square* design in detail—as well as the convenient, sanitary angle-flow bubbler and many other advantages—will gladly be mailed, together with prices, upon request.

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TECHNICAL SECTION

Fibre Control in Making Worsted Yarns

Carrier Laps and Slubs in Yarn—Fibre Lengths and Position of Rollers—Settings Should Control as Large a Proportion of Fibres as Possible in Order to Give Greater Evenness, Less Waste and Freedom from Slubs—Principles of Adjustment

By *Texus.*

As the fibres in worsted roving and slubbing are always irregular in length, arrangements are made as far as possible to control the shorter fibres during the drafting process. To a large extent the levelness of the resultant yarn is in proportion to the difference between the longest and shortest fibres of the material and particularly so when the material is spun near its counts limit. Yarn unevenness arising from this cause may be considerably reduced by the proper adjustment of the parts available for the purpose.

In open and cone drawing a certain amount of twist is imposed on the slubbing and roving and this exercises a slight control over the fibres while they are being drafted. Without some further controlling mechanism a rolling of the roving would occur, which would have a bad effect on the resultant yarn.

Prevention of Rolling

Wooden carriers or tumblers are used to prevent the rolling of the twisted slubbing and to restrain the short fibres from being unduly drawn forward by the longer ones. In spinning medium and long wools three rows of carriers are placed between the back and front rollers of spinning frames. For the shorter Botany qualities two rows are usually sufficient, besides which the ratch will only afford space for this number.

The wooden carriers work in slotted brackets by frictional contact with the roving end, which rests on the steel carriers below, the roving or slubbing being subject to the pressure of the top or wooden carrier only. The freer the fibres of the roving are, the more effective must be the control exercised by the tumblers. For instance, in French drawing the twistless sliver requires control by pins close up to the nip of the front roller, while iron tumblers are necessary on the worsted mule. The respective positions of the tumblers between the front and back rollers are to a large extent governed by the lengths of the fibres under treatment; the surface structure of the fibres, twist and thickness of roving having some modifying influence. The presence of oil on the material and the age of the roving have also to be considered.

The accompanying diagram, Fig. 1, showing plan of roller and carriers on a roving frame, and Fig. 2 showing a fibre figure representing the respective lengths of fibres constituting an average roving, will illustrate the position of the carriers in relation to the nip of the front rollers.

Setting the Carriers

Not sufficient importance is attached to the setting of the carriers. Frequently an appreciable improvement may be made in a yarn by their intelligent adjustment. Subject to the modifications previously referred to, the distance between the nip of the front roller and the bottom carrier should be such that the ends of the shortest fibres in the roving or slubbing are only released from carrier control when the other ends have been gripped by the front roller nip (see diagram).

The second carrier should be set so as to control the end of the medium length fibres until they are drawn forward by the draft of the front rollers. Where a third set of carriers is necessary it should be set well under the length of the longest fibres so as to exert control at a point about equal to two-thirds of their length.

A slight change in the position of the bottom carrier is much more effective than a movement of the second or third row in a similar distance. This is due to the fact that there is practically no twist on the roving between the nips of the bottom carrier and the front roller.

Having stated the function of carriers and tumblers and the principle of their adjustment, some of the defects in yarn due to their action may be pointed out.

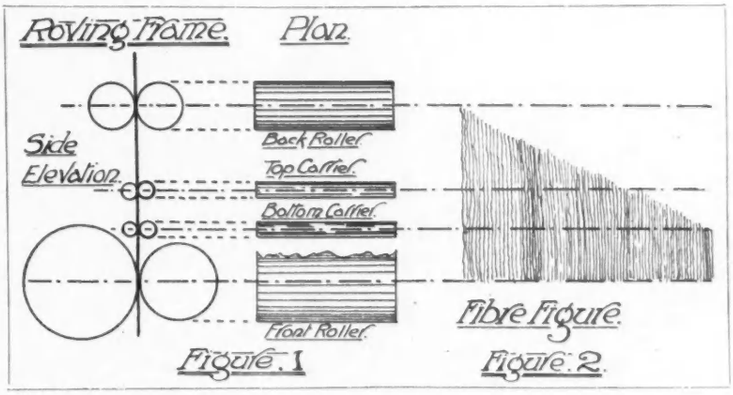
Causes of Yarn Defects

A fruitful cause of defective yarn arises from the tendency of some qualities of material, and most qualities under certain conditions, for roving to become attached to and wrap round the steel carriers, particularly the bottom one.

Several causes may be assigned for this tendency:

(a) Excessive oil or bad oil in roving.

(b) Roughness of carrier surface.



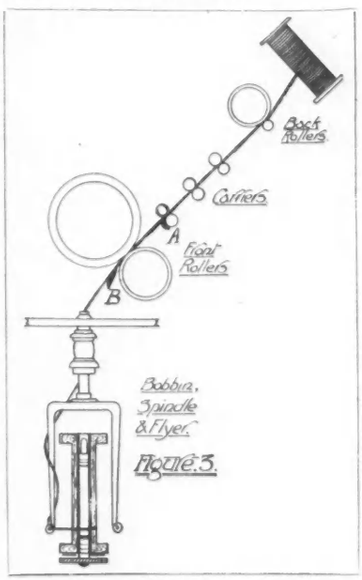
(c) Carriers running too fast in relation to draft.

(d) Deficiency in effective control by tumblers.

(e) Too little twist in roving, or surface of roving wild and loose.

(f) Roving too new.

(g) Excessive draft resulting in too great a fibre disturbance.



The items a, e, f and g are causes for which processes previous to spinning are responsible. The others require attention by the spinning manager or overseer when carrier laps are numerous.

A frequent cause of carrier laps and slubs in yarn is the oil added in gilling. Much has been written with regard to the relation between oil used and condition applied, and the after operations of cloth scouring and dyeing, but no mention has been made of the fact that the oil used may be responsible for many defects in yarns. One of the worst imperfections of oils used for wool lubrication is that of "stickiness." Oil should not be "gluey" or sticky, or fibre freedom is considerably retarded. When the number of operations and the doublings and drafts in worsted drawing are considered, the importance of free movements of fibres cannot be over estimated.

Sticky Oil

Sticky oil causes carrier laps and these are bad in two ways. First, carrier laps are bad in themselves because of the waste made and the uneven yarn they cause until removed. The second fault is probably more serious because it causes slubs of a very objectionable nature to be introduced into the yarn. Fig. 3 illustrates how what may be termed "half carrier laps" are formed.

How Slubs Are Formed

It will be noticed that at A, Fig. 3, a few fibres from the roving are interfered with between the bottom carrier and the front roller by reason of the stickiness of the carrier due to the accumulation of a thin film of oil on its surface. These displaced fibres may draw the roving end completely round the roller and if so the end will be broken down. Or probably a carrier lap does not mature, but owing to the pull of a number of adjacent long fibres those which have become displaced may be pulled from the carrier and pass forward, as shown at B, in the form of a loop introducing what is called a slub into the yarn without breaking down the end. It may be concluded that for every full carrier lap made scores of the half carrier laps are introduced into the yarn.

These faults, often due to the use of unsuitable oil, are not always remedied at the first attempt. An unsuitable oil may be replaced by one equally bad. Unsuitable oils produce other faults in addition to slub making; therefore, for more reasons than one, good oil should be obtained for lubricating wool fibres. Anyone can make a practical test for stickiness by smearing a small quantity of oil on wool fibres and handling them, say, twice a week for a month, determining by the simple, common sense method which oil is best.

SPRING WOOL PRICES SURPRISE TO TRADE

Increase in Women's Fabrics Only 5 1-2 Per Cent.

Complete lines of women's wear fabrics for the spring 1924 season, opened to-day by Department Four of the American Woolen Company proved a surprise to the cloak and suit trade both in the smallness of the increase and the range of materials shown.

Despite the gloomy predictions voiced in the past few months by those presumably in a position to know, the increase for spring fabrics is to be only five and a half per cent. The lines shown are the most complete and varied in the history of the American Woolen Company.

Pile sheen fabrics, for instance, are displayed in a range of colors and prices never before equaled, according to officials of the company. Twenty-eight numbers are shown, ranging from $3 to $6.75 per yard. Included in this group is a new line of novelty cut-pile sheen fabrics in plaids and stripes, in an assortment of new colors, including tans and grays.

Polaires, priced from $1.42½ to $3.25 in plaids, fancy stripe effects, Llamar laines, luster pile Polaires and Deauville Sport Polaires are another feature of the line.

Interest in Line Keen.

So keen was the interest shown in the opening few hours that it was unofficially announced that the lines will probably be withdrawn from inspection by Saturday. Orders varying from 4,000 to 8,000 pieces and over were placed in the first few minutes that samples were shown.

Department Four will book the biggest week's business in its history, it is expected. Cloak and suit manufacturers experienced such a busy spring last season that they are left with practically no piece goods and must order new supplies.

Line Most Complete Shown.

Included in the line, a complete tabulation of which follows, are Normandy fabrics, which still hold their popularity and are now considered as staples, lightweight velours, heavyweight velours, and meltons, for "end of year delivery," two sport novelty cheviots in a combination of high colors, including copens, tans and grays and also a complete line of pencil and self-stripe twills in 35 to 40 various fabrics ranging in price from $2.17½ to $3.80, and a Repp-o-laine specially priced at $1.72½, suitable for dresses, suits and coats.

Poiret-sheen, a narrow twill with a very high luster and Cordiere, a repp with straight up and down cord, are listed as specially adapted to the dress trade.

Increases noted in some of the fabrics comparing the spring prices with those of last fall, are as follows: Style 1253, Truvennet, from $3.87½ to $4.30; 0599, Avanzada, 1.3 per cent. increase, from $5.12½ to $5.20; 21371, Ormadale, which is in its fifth season, from $6.09 to $6.17½, a 2.7 per cent. increase; 21384, Velverette, from $6.20 to $6.40, a 3.1 per cent. rise; 09213, Seabloom, from $4.77½ to $4.82½, a 1 per cent. increase; 0628, Granada, from $3.22½ to $3.35, a 3.8 per cent. increase; 21425, Burelaine, from $6.37½ to $6.75, a 5.8 rise; 18209, Morette, from $5.67½ to $6.00, a 5.7 per cent. increase. Some shades in these numbers were priced last fall at 7½ cents a yard more, but this year all shades are the same price.

Twenty numbers in twill were shown. The increase in 09163 was 5.7 per cent., from $2.10 to $2.22½ per yard. No. 09164 went from $2.15 to $2.25, an increase of 4½ per cent. There was practically no advance in fancy stripe and plaid polaires.

Wide Range of Colors.

Brand new novelty pile sheen fabrics, opened for the first time this morning, include No. 18242, moissan, 17 oz., with large plaid, priced at $4.62½; No. 0658, kwendolaine, 17-18 oz., striped, offered in a color line, at $5.42½; 0659, bangalore, 17 oz., a herringbone pile sheen, at $5.42½, and 21426 and 21427, cherenti and dausant, both 16 oz. and priced at $6.25, made by the same mill as turns out the ormadale.

The materials are offered in thirty-nine different shades, light tans and grays predominating. Some of the more prominent colors are loutre, a light gray, ormond, olive, tan, platine, light gray, avenir, midnight blue, musette, green caster, laurie, light gray, treupler, darker shade of gray, fantasio, grayish tan, caupcin and maghzen, orange, pedsian, a greenish copen, beige, a grayish tan, otter, a caster tan, cordeue, a chocolate brown and triton, a green shade.

The Complete Line.

PILE SHEEN FABRICS.

Reumeyn, I-13167, $3.37½, 16 ounces; Alvarado, X-16074, $3.45, 16½ ounces; Ambriz-

Repp-o-laine—AA-AA-09256, $2.90, 09245, $3.17½, 10

NOVELTY SPORT

Balma tweed—A ounces; baska $1.77½, 12 ounces.

FANCY STRIPE

S-11021, $1.52½, to 1.62½, 18 ounces K-15154, $2.05 K-15153, $2.45, 16 to $2.67½, 17¼-18

LIGHT W

I-13125, $1.67½, ounces.

HEAVYWEIGHT FOR DELI

I-13183, $1.25, 20-21 ounces; I-13165, $1.50, ounces; I-13168.

S-11022, $1.42 to $1.80, 18 oun I-13137, $1.70, ounces; I-13139 $1.92½, 16 ounc I-13140, $1.95 ounces; I-13132 I-13148, $2.37½

LUSTE

I-13149, $2.45 16 ounces; K K-15158, $2.42 $2.55, 17¼a18 17¼ ounces; K K-15165, $2.82½ a19 ounces; K K-570, $3.25, polo, wide a ounces.

Buyers R At the Pal

R. Lowenstein S. McLaurine, Friedman Spr Rapids, Mich. Kirby, Block silks and woo guerite Hoving monos.

Cooper's Sto T. Silbeck, Jr merchandise.

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Charles C

From the N.Y. Sun and Globe
7/31/23

Quality and Character in Wool

Producer's Viewpoint on Desirable Properties of Fibre—The Meaning of Quality

By *A. R. van der Merwe*

IN endeavoring to give a lucid description of quality and character in wool, I am guided by two main factors, supply and demand; in other words, the influence which manufacture has had on the development and breeding of the merino sheep generally. In order to realize a good price for their wool, breeders have had to keep in touch with the manufacturers' requirements.

In the wool trade people are very apt to confuse character and quality, which are very closely allied. Quality embraces character and has a wider meaning. There are four outstanding properties of wool which, to the writer's mind, are indicative of character:

1. When it shows distinct features of its breed or type.

2. When there is a definite staple formation. It should be solid, compact, cylindrical, even, and true in regard to its formation from base to tip. There should be plenty of substance, body, or bone in the staple; also freedom of growth, with absence of cross fibres. The staple should also stand at right angles to the skin.

3. The crimp must be even, true, and regular from base to tip, and, above all, well defined and distinct.

4. Color, too, has its effect in showing character. Wool possessing good color shows up character to greater advantage, thus making the wool appear to the eye as possessing life.

The Meaning of Quality

For quality, good wool must have all its characteristic wool properties well or highly developed—viz., character, soundness, evenness, elasticity, pliability, color, softness, silkiness, crimpy structure, freedom of growth, density of fibre, body, draught, length of staple, and fineness for its breed or type. A wool is said to be lacking in quality when any of these properties are deficient.

There are many contentions regarding character and quality in wool. Some maintain that a wool can have neither quality nor character without having a high spinning capacity. In other words, only fine wools can have quality and character. This is entirely incorrect. It can, however, be put as follows: A wool showing good quality and character has a higher spinning capacity than is usually obtained from a wool of that particular degree of fineness and length, which means that there is something more besides mere and absolute "fineness" in either character or quality.

Others, again, contend that any wool showing good, distinct, or well-defined crimpy structure possesses character; this, too, is incorrect. When the term "quality" is used by a wool buyer or manufacturer, spinning quality is inferred, and in this sense refers chiefly to "fineness," as it is fineness more than anything else that determines the spinning quality of a wool. But we must not lose sight of the fact that a wool may be overfine, tending to be effeminately weak and delicate.

There is no doubt that any type of wool can possess the above features, whether the wool be fine, medium, or strong, irrespective of thickness or diameter of fibre.

It is of prime importance to supply the manufacturer, by whom we are guided to an extent in our breeding operations, with what he requires, so that the finished fabric may be of the desired standard, and in this respect character and quality should be the aim and object of every sheepman concerned. The chief features are treated separately, as follows:

LENGTH.—The importance of length cannot be over-estimated. It governs the strength of the yarn, and consequently the cloth. Material composed of fibres 3½ inches to 4 inches in length, when spun to the same degree of fineness as fibres of 2 inches, must hold to a greater extent the individual fibres, and the yarn from the former must, as a consequence, be stronger. In spinning and weaving, in particular, length is of great service; in the former process the control of the fibres thereby obtained is responsible for much less waste, and consequently more output; and in the latter process the employment of rough yarn would cause breakage of ends and the production of a cloth unsatisfactory in appearance.

Possible Cause of Weakness

There is, of course, a limit regarding the utility of length in a wool. An extraordinary length sometimes denotes a weakness; a fibre requires nourishment, and an exceptionally long fleece is often more than an animal can satisfactorily nourish, with the result that it is of irregular growth. In the merino wools of length, say, beyond 4 inches, the nature of the fibre has such a clinging capacity as actually to cause breakage when the fibres are drawn and redrawn in the process of spinning. Still, it is far easier to err on the other side, for wools of exceptional length are not always available.

FINENESS.—This is a feature which naturally, in the best material, should be a very striking one. Neglect in selecting wools in which this is pronounced has been one of the great causes of deteriorating quality, so much in evidence today. From a manufacturer's point of view the quality of wool is very largely judged by the resultant yarn, and the yarn is not worth its name if it be not even, free from surface irregularities, and strong; yet this is impossible if the fibres are not so fine as to admit of a regular and comparatively large number of these being in any cross-sectional portion of the yarn. Then, again, it is only through (true) fineness in the wool that fine yarns and light weight cloths are possible; thus an absence of this feature considerably limits the application of the material concerned.

Fineness and Softness

The influence fineness has on softness—a quality of paramount importance in a wool fabric—is by no means small. It governs smartness also in the yarn or cloth to no small extent, for the fineness admits of the fibres fitting themselves permanently to the position they are placed in during the spinning, weaving, and finishing. Under the greater portion of South African conditions we have to guard against the tendency of wool becoming overfine, due to environment causing frequent leanness of the fibre, which easily breaks. The limit of fineness has been reached and a thickening of the fibre to preserve the strength is now necessary.

SOFTNESS is a valuable feature, being always sought after, as it gives the finished fabric the desired soft texture. No other article possesses this quality to the same extent as wool, and it is surprising how it retains it after passing through the many processes that tend to harden and solidify it in bulk. In view of the solidifying and hardening influence manufacturing has on the material, allowance is made for this when procuring wool for a definite use.

BRIGHTNESS.—In fine merino wools, color, or rather whiteness, is always an indication of good breeding; it is the natural appearance of the material. Should the wool be grey or excessively yellow, other defects of a serious nature may subsequently be found. In the dyed and finished state of fine wool fabrics, there should be an appearance of warmth, due to the full and uniform absorption of the dye. The absence of this characteristic is a serious objection. Suitable wools for dyeing purposes are always uniform in their whiteness; indeed, this is essential to the regularity of shade in the dyed fabric.

These advantages of color in the raw material are not so great when the darker shades are being produced, which admits of discolored lots being employed sometimes; yet careful comparisons will show that the latter dyed products lack the "life" and "bloom" which are always appreciated, and result from the use of white wool.

Value of Elasticity

ELASTICITY.—Springiness or elasticity in wool occupies a high position. It enables that satisfactory preparation, without which there would be much breakage of fibre and waste, seriously affecting the appearance of the yarn or cloth. This feature also ensures durability in the finished product, for it counteracts strain and lengthens the life of the material. To it fulness in appearance is also due; the value of elasticity in handling a cloth may be gauged by comparing a material made of wool with one of cotton, the latter being lean and dead, while the other fills the hand.

A fine wool, being more numerously crimped than a strong wool, shows greater elasticity, and also has more serrations, which all tends towards a very strong and durable article. These serrations give the yarn the tensile strength which ultimately results in a strong piece of material. Straight, strong wool usually lacks strength, elasticity and spinning capacity.

Uniformity Essential

UNIFORMITY of length and fineness is another important feature, and one which generally indicates the difference between good and badly bred wools. The term has a twofold application; there is the uniformity of the staple fibres as regards thickness, and the uniformity of the staples as judged by their length. In badly bred wool, or in wool from badly nourished sheep, much waste results from thin or tender places in the fibre, causing breakage; and owing to the absence of uniformity in length of staples the proportion of top and noil is unsatisfactory, the latter being too great in quantity.

The strength of yarn is also governed by uniformity, for only when the fibres forming the yarn are holding on to each other in each case as nearly as possible to the same degree, can the yarn be strong.

In conclusion, it may be stated that the great popularity which wool, especially merino, enjoys in the textile world is mainly due to its quality and character, and until a suitable substitute is found, wool will maintain its pride of place as a premier textile fibre.—*Journal of the Department of Agriculture*, Union of South Africa.

The Mohair Growing Industry

From Paper Presented at Meeting of Alumni Association, Philadelphia Textile School

By *L. M. Murphy*

MOHAIR has a characteristic high silky luster and is used in the manufacture of upholstery, draperies, portiere cloth, linings, women's wear, men's lightweight suitings and knitted garments. It is produced by the Angora goat. The original home of the pure-bred Angora goat was the vilayet of Angora, located in Asia Minor, where climatic conditions favor the production of the finest and most lustrous mohair. The country thirty miles beyond the city of Angora produced inferior mohair.

The Angora goat, according to tradition, was treated as a household pet in Asia Minor; almost every family raising four or five for this purpose. The luster and beauty of the mohair attracted the women-folk, and dainty

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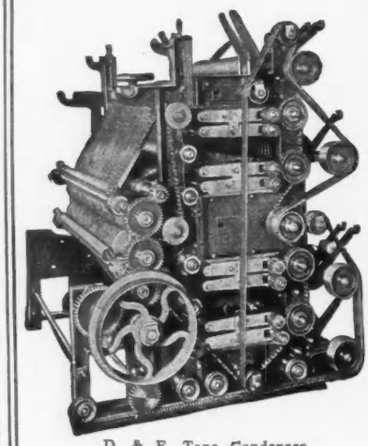

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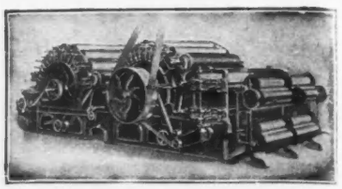

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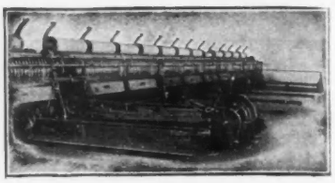

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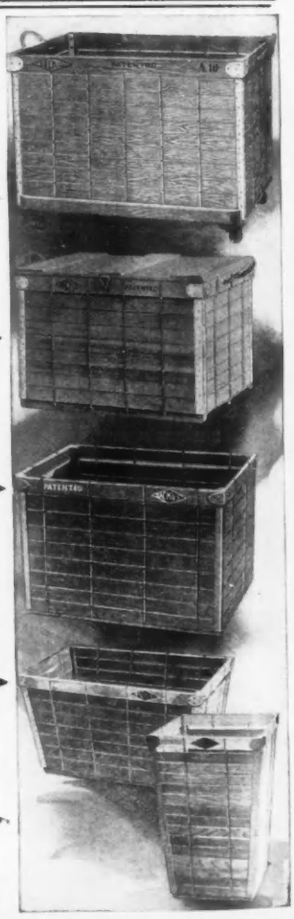

WRITE FOR CATALOGUE

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personal adornments were made from the hair, and the remaining clip was used to make bed clothing. The manufacture of mohair into apparel followed, it being conducted on a small scale by the women of the family.

The women purchased the mohair in the fleece or "tiftik," as it is known in Turkish, and in a crude way of pulling portions of the locks loose with their fingers and passing them through an iron comb, the carded stock was spun into six grades of yarn. The women used much spittle in the spinning operation, and during the melon season, which was conductive to the production of much saliva, the best yarn was made.

The yarn was forwarded to Angora, which was the center of the weaving industry; the twill and plain weaves being chief structures. The cloth was dyed in the same city, the principal dyes being cochineal and indigo; also a coffee-color made by mixing cochineal with the rind of the green walnut. The yarn-dyed fabrics were fast, while the piece dyes faded with comparative quickness. The mohair weaving industry in Angora during the palmy days amounted to from 1,200 to 1,800 looms, and an export trade with Europe amounted to from 20,000 to 35,000 pieces annually.

The best yarns were exported to England and the poorer grades to France, Holland and Germany. The knitted gloves and hosiery made from mohair yarn by the Turkish women were puzzling to the English; the ingenuity and workmanship of the women were of the highest skill.

Manufacture Begun in Europe

The first manufactured mohair was exported in 1820 from Asia Minor to Europe. The mohair sold for a ridiculously low price, owing to the lack of machinery and knowledge to spin the yarn; however, this condition soon changed. In 1835, England commenced to spin mohair yarn. The continent spun yarn prior to this date, but the English product soon reached a popular stage and the quality excelled the hand-spun yarn of Angora. In 1836, Sir Titus Salt purchased a number of bales of alpaca and later on a small amount of mohair. His business in these two yarns advanced in leaps and bounds, so that in 1853 he erected his mills in Bradford.

The mohair manufacturing industry of Angora commenced to decrease shortly after the first exportation of unmanufactured mohair. The fact that Turkish gentlemen changed their fashion of dress, the popularity of the French and English merinos in the Turkish bazaars, and cheap and superior machine-spun yarn, were the forces which vanquished the Angora weaving industry. In 1839 there were only fifty looms in the city.

The passing of the mohair spinning and weaving industry marked the intensified production of mohair, which was more compensating to the nation as a whole than the returns from manufacturing. In 1836, England imported from Turkey 1,247,000 pounds of mohair, and in 1895 the imports of this product amounted to 11,000,000 pounds. Shortly after England started to import Turkish mohair, she re-exported considerable quantities to the United States.

Goats Exported from Angora

Fabrics manufactured from mohair became popular, and a demand was created for the fibre. The pastoral nations of the world endeavored to produce the lustrous fibre, and so in 1838 the first Angora goats were imported into Cape Colony, South Africa. The first Angoras to enter the United States came in 1848, when the Sultan of Turkey presented a number of the animals to Dr. J. B. Davis, of South Carolina, who conducted cotton-growing experiments in Turkey at the request of the Sultan. Those goats, two males and six females, were among the best in Turkey, and their pure-bred offsprings were sold to California and Texas ranchmen. Continuing from 1848 to 1880 Angora goats were imported into the United States, when the Sultan prohibited further exportation.

The price of mohair started to decline in 1875, when it sold at 3s. 10 1-2d. per pound, to 1s. 9 d., in 1880. The Turkish mohair growers became alarmed and claimed that South African and American mohair was replacing Turkish mohair. The reason for the fall was the caprice of fashion; which today is the main factor in the control of the price of mohair. French all-wool cashmere became popular and supplanted the fabrics manufactured from mohair.

American Production

The United States produces annually approximately 7,000,000 pounds of mohair. Texas is the leading State in the Union in the number of Angoras and the production of mohair; over seventy-five per cent of the American production of mohair is grown in the "Lone Star" State. The other leading mohair producing States are Oregon, New Mexico, Arizona and California. The mohair produced in Texas is the finest and most lustrous. The Oregon hair is longer but lacks the fineness and luster of Texas Mohair.

The mohair-producing section of Texas is located in the southwest, extending west from San Antonio and Kerrville to Sanderson, and from Uvalde and del Rio north to Menard and San Angelo. The Edwards Plateau of Texas is the ideal Angora goat country of the United States, offering the necessary features, namely, a well-defined rugged country, a gentle roll in some localities, mild winters, dry atmosphere, an average altitude of 1,500 feet, and the natural range feed—evergreens, weeds and browse. To this must be added the low land values which existed years ago.

Mohair Growing Profitable

The number of goats on the individual Texas ranch ranges from 800 to 7,000; sheep and cattle are also ranged on the same ranch. Angoras are very profitable; in fact, there is scarcely an animal that yields the return of the Angora from the small outlay and attention. The goats graze in fenced pastures and are herded by Mexicans, who are efficient ranch hands. The Angoras flourish on evergreen brush, and browse; they are often used in clearing cut-over land.

Great care must be exercised in grazing goats, for they will kill out all forms of vegetation. They eat clean whatever the graze; hence it is necessary to transfer them from one pasture to another at different intervals. The average production of mohair per goat is about four pounds. Some will average eight pounds, and the best male goats occasionally will shear as high as 20 to 25 pounds. The Angoras are very prolific, and it is not uncommon to have a 100 per cent annual kid crop.

The length of the mohair varies from four to twelve inches, according to the time it is shorn; some goats are permitted to produce a two-year-growth, which results in twenty to twenty-four-inch hair, but these goats require special atention. This long hair sells in the neighborhood of twenty dollars a pound and is used in the manufacture of wigs and switches.

The angora goats in Texas are shorn twice a year—during the latter part of March and the first of September. This is necessary as the goats will shed the mohair if it is allowed to grow twelve months; also, a goat bearing long hair, if caught in the brush or a fence, will not make any great effort to loosen itself; a fact which will result in death should the animal go unnoticed by the herder.

At the completion of the shearing, the mohair is sold direct to an eastern dealer, or sent to one of the various wool and mohair selling agencies in the State, where it is sold with the clips of a number of other growers. The principal mohair accumulation points are Uvalde, Kerrville, Bracketville, Del Rio, Angelo, Menard, Mertzon and Frijole.

The quality, luster and character of Texas mohair have increased wonderfully in the last twenty years. The growers are putting considerable stress on the standards of their breeding stock, their slogan being, "No man can match his time against a scrub." The Texas Agricultural Experiment Station has established a sub-station, comprising over 3,000 acres, at Sonora, right in the center of the Angora goat industry, where experiments are carried on for the development of a standard type of Angora through scientific breeding methods, a study of the inheritance of characters, and the control of external and internal parasites which impair the development of the Angora goat.

Worsted Yarn Faults

How They Are Made—An Exhibit of Their Appearance in Goods Might Educate Workers

By *Crammer*

IT needs a certain amount of nerve for a spinner to write a treatise on the subject of worsted yarn faults. No doubt a weaver or knitter writing on this topic could deal with the subject more freely and at greater length, as almost all commercial yarns are for some reason or other open to criticism. Some yarn faults will show up in some fabrics and not in others. Some colors will magnify a defect, while if the same fabric be dyed black the defect may be hidden completely. In other cases the methods of interlacing, or errors of interlacing, are such as to cause suspicion to be cast on the spinner's product.

Uneven yarns occur in all systems of spinning, whether mule, cap, flyer or ring, and there are scores of ways in which they can be made. The fault can be traced in most cases to the material, and may be the result of inefficient wool sorting or bad blending. Assuming efficient manipulation, evenness of yarn may be stated to be proportionate to the degree of uniformity in the length, diameter and surface structure of the fibres blended together. Without close approximation in these features yarn irregularities must occur.

Production of Good Tops

To supply the spinner with the highest class of top sliver it would be necessary to skirt all fleeces thoroughly, and with the best and most uniform wool to comb conscientiously, tear freely, and double or re-comb if necessary, so that fibres varying 40 to 50 per cent. from normal length would be excluded from the top. Of course rejecting fibres is costly. The difference between top and noil prices is sufficient to insure the comber watching his own interests.

The success of the commission comber in England, and I presume elsewhere, is measured by the amount of top, rather than its quality, and his payment is based on the weight of top produced, so that it is up to him to put as many short fibres into the top as is compatible with easy working. These combermade rules respecting payment for combing, and success judged on tearage, react against the spinner and manufacturer in the form of uneven yarns. Even with the best conditions in sorting and blending, if the short fibres are straightened and not removed, the top is deficient in spinning property.

Where sorting is scamped and blending not studied from the yarn point of view, and fibres of all lengths passed into the top, the resultant yarns are twitty even when spun to thick counts. In this the spinner is almost helpless. It would be fair to say that in many instances uneven yarns are made in sorting rooms, blending rooms or combing sheds.

Even certain improvements in

(*Continued on page* 169)

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Over fifty years ago, a number of woolen manufacturers found out that Scotch Wool Oil was the right oil. Many years of use have merely served to strengthen the original opinion of these mill men, and the list of regular users has grown steadily.

Scotch Wool Oil helps the wool by keeping it in a satisfactory condition, and enabling it to run more quickly through the cards and other machines.

Its use keeps fabrics from the injuries so often caused by inferior oils. Scotch Wool Oil does not stain or blotch the goods or create a chemical compound harmful to machines. Stock treated with this oil will not become sticky after storing.

Scotch Wool Oil can be washed out easily with less soap than is needed to wash out any other wool oil on the market. And Scotch oil runs absolutely smoothly!

"Lubrik" Textile Lubricant is another product of unusual merit. It, as well as Scotch Wool Oil, deserves at least a trial order in your mill.

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Our recommendations of lubricants for the power plant of a textile mill are made after a thorough study of the prevailing conditions in order to offer that oil best suited for any particular service.

Whether the power unit or units be steam engine, water power, steam turbine, electric motors with purchased or generated electric power, oil engine, etc., our engineers make our recommendations after a detailed inspection of the conditions is permitted.

The data involved is tabulated in a formal report and studied so that the best selection of lubricants may be secured for the machinery in question.

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QUESTIONS AND ANSWERS

Under this head we undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. In this way answers can be given which will be of immediate technical value to the correspondent and to others in the same line. Inquiries pertaining to textile processes, machinery improvements, methods of management, the markets, etc., are especially invited as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith. The identity of correspondents will not be disclosed.

If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.—EDITOR.

Carpet Manufacturing Costs

Technical Editor:

We are looking into the manufacture of Brussels, Wilton and Axminster carpets and rugs and would appreciate anything you can send us on the items of cost entering into this business, expressed in percentages. (4871)

There are so many distinct grades of these goods, which might be manufactured under such widely different conditions, particularly in respect to the Wilton and Axminster carpets, that an opinion of the subject presented merely by general cost statistics in the form of percentages might tend to obscure rather than to throw light upon the questions under discussion. In support of this statement we invite consideration of the following example of the cost of two different grades of Axminster carpets. The first might be manufactured with a woolen yarn top 6 2/3 x 7 tufts to the square inch, with ¾ inch pile, the warps being of 8/3 cotton and the filling of 2/7¼ jute. A carpet manufactured in accordance with the foregoing construction would represent a medium grade. Passing on to the second grade, a manufacturer might produce a strikingly higher quality by merely substantially increasing the height of pile while adhering to the less expensive construction in all other respects.

Table 1—Division of Carpet Manufacturing Costs

	Amount	Per cent. of net market value
Materials: Woolen or worsted yarn, dyed cotton yarns, selvage, etc.	$498,924	49.9
Labor: Wages paid for winding, weaving and related operations.	99,818	10.0
Manufacturing Expenses: Power, heat and light, repairs, miscellaneous supplies and other incidental manufacturing expenses	42,409	4.2
Designs	19,965	2.0
General Expenses: Property taxes, insurance, salaries of management, office expenses and other miscellaneous general expenses	40,000	4.0
Depreciation: Amount of reserve for period in respect to buildings and machinery	35,000	3.5
Interest on Investment: Interest at 7½% on $1,000,000	75,000	7.5
Distribution Cost: Salesmen's salaries, commissions, advertising, etc.	50,000	5.0
Profit	138,884	13.9
Net market value of production	$1,000,000	100.0

Such a change from a medium grade fabric to a high grade fabric would probably entail little or no increase in the labor cost of weaving, finishing and designing, while the material cost (which in any case would be the greatest item) would show such a marked increase that the resulting diminution of the other cost elements, if expressed in a computation of percentages only and without due regard to all governing conditions, would have a distorted appearance in spite of its accuracy.

From a study of the foregoing case, it will be readily admitted that if a tabulation reflecting in percentages the cost items entering into the manufacture of such merchandise is to be of the most value, it must be reviewed with a full knowledge of conditions.

While this subject is far too complex to be dealt with briefly, and at the same time effectively, to illustrate the subject in a slight measure the writer has prepared some hypothetical figures showing the principal items of cost which would apply to the affairs of a well managed carpet manufacturing business. It is supposed that the industry has an invested capital of one million dollars; that it manufactures high grade goods; that the distribution of these goods is effected through a well managed and efficient sales organization; that the policy of the entire organization is one of specialization and aggressiveness; that the selling price of its goods is not subject to undesirable influence through the establishment of inadequate prices by less efficiently manged concerns in the same line of business; and that the enterprise turns over its invested capital not less than once a year. Under these conditions the relativity of the various cost elements might be approximately as expressed by the percentages summarized below:

Items of cost	Per cent. of net market value of product
Materials	49.9
Labor	10.0
Manufacturing expenses	4.2
Designs	2.0
General expenses	4.0
Depreciation	3.5
Interest on investment	7.5
Cost of distribution	5.0
Profit	13.9
Net market value of product	100.0

It will be noted that included in the above items of cost is a provision for interest on investment. Many industrial engineers contend that such an item should not be included in cost, but the writer prefers its inclusion, particularly when a new business is under contemplation.

In further explanation of these figures the writer has prepared the figures at Table 1, showing under these same significant divisions the totals, expressed in money values, of the items shown in the above summary.

* * *

Sizing Artificial Silk Yarn

Technical Editor:

We would like to obtain a formula and method for sizing viscose artificial silk yarn to prevent chafing in the process of weaving. We want something that will not impair its luster or dyeing qualities. (4863)

John P. Marston Co., Boston, reply to this inquiry as follows: In reference to inquiry for formula and method for sizing viscose artificial silk yarn to prevent chafing in the process of weaving, we recommend either Gelatose Gum S, or Gum Tragasol, both products being used successfully by a number of mills in this country and in England. Gelatose Gum S is used on a basis of 12 ounces to 10 pounds of water, and on some yarns an addition is made of 2 ounces of white glycerine. Gum Tragasol is used on a basis of 1 to 2 parts Gum Tragasol to 8 parts of water.

Both of these products may be employed cold or hot, as desired. Neither product will dull the luster or affect the silk in an injurious manner. Gelatose will readily wash out of the yarn. Gum Tragasol is better left in, as it forms a continuous film, does not dull the luster and imparts a desirable feel and body.

* * *

Thread Finishes

Technical Editor:

Kindly give me a formula for making size to be used in dressing cotton yarns to give them a medium finish. The counts are from 20s-2 to 50s-2 American stock and 30s-3 to 50s-3 Egyptian stock. (4877)

The following formulas for 30 gallon mixings are suitable for the counts and stock mentioned:

No. 1
5 lbs. pastry flour.
8 lbs. starch.
2 lbs. cocoanut oil.
1 lb. glue.
½ lb. paraffin wax.
2 oz. borax chip soap.
1 oz. borax.
¼ oz. copperas.

No. 2
11 lbs. starch.
½ lb. castor oil.
4 oz. Japan wax.
2 oz. castile soap.
1 oz. borax.
¼ oz. copperas.

No. 3
11 lbs. starch.
½ lb. Congo wax.
4 oz. Beeswax.
6 oz. cocoanut oil.
3 oz. turpentine.
½ oz. borax.
1 lb. glue.

The flour in mixing No. 1 should be boiled in ¼ barrel of water, then cooled, add starch and boil. Add other ingredients just before the size reaches boiling point. For two-brush machines use size without water. Water may be added if used on single brush machines.

We believe the inquirer will find that No. 3 mixing will give good results on American stock if the rolls on the dressers are adjusted and size rolls are running at the correct speed for the different counts. The speed of the brushes should be about as follows: Single brush machine, 350 to 370 revolutions per minute; double brush machine, 400 to 450 revolutions per minute.

* * *

Laminated Cloth

Technical Editor:

Can you give me a list of uses for laminated cloth? (4874)

One of the principal uses of laminated cloth is for polishing. Practically always cotton cloth is used, like osnaburgs, sheetings and in some cases light duck. Woolen cloth is used in glass polishing to some extent. Laminated cotton cloth buffers are built up to any desired thickness, stitched, die-cut in circular form and occasionally stitched again spirally. A center of metal or wood is inserted and the polishing wheel is ready for service. This type of polishing wheel is used for polishing leathers, artificial leathers, woods, metals and various kinds of composition materials. It is sometimes used in hat cleaning.

Laminated cotton sheeting impregnated with composition materials of various kinds has been used in certain types of universal joints. In the textile industry laminated numbered cotton duck stitched, riveted, or both, is used to some extent on looms in the form of lug straps, check straps and pickers. Fine sheeting and light duck laminated and impregnated with composition materials are used for the making of gears. The blank is built up and the gears are cut the same as if of iron, steel or rawhide. Laminated cotton sheeting alternated with a cheap, light woollen flannel is used at times for making pads on which great pressure is brought and where pressed felt would spread and cause an uneven surface. Laminated cloths are also used for packings.

JAMES W. COX, JR.

* * *

Bleach for Cotton

Technical Editor:

Is there a sulphur bleach for knit cotton fabric? We have in mind a knit undergarment with the appearance of a half bleach. We think there is such a way of bleaching with sulphur but we are not certain whether it is used for a cotton fabric or not. If you know how this is done, we would greatly appreciate learning the advantages or disadvantages of same, and the method. (4841)

You no doubt have heard of a sulphur bleach in connection with the bleaching of wool, or wool and cotton mixed underwear. Cotton treated with sulphur dioxide becomes very harsh and under certain conditions in storage will tender. Sodium hydrosulphite is used extensively for stripping colors and no doubt it will decolorize some of the coloring matter in cotton by its reducing action, but it certainly will not touch the motes, shives, etc. Bisulphite of soda is used in connection with the chlorine bleach on cotton. The peroxide bleach, which eliminates a previous boilout and can be carried out in a reel machine, or in a kier, gives very satisfactory results.

* * *

Temperature in Steaming

Technical Editor:

In the finishing of cotton goods is control of temperature in steaming or ageing of enough importance to warrant the use of regulators? (4875)

Steaming or ageing should be controlled by temperature regulators, as the various types of steamers and agers are worked at anywhere from 160 to 212 degrees F., depending upon the requirements. More or less heat than a stated degree may have serious effects on certain lines of colors.

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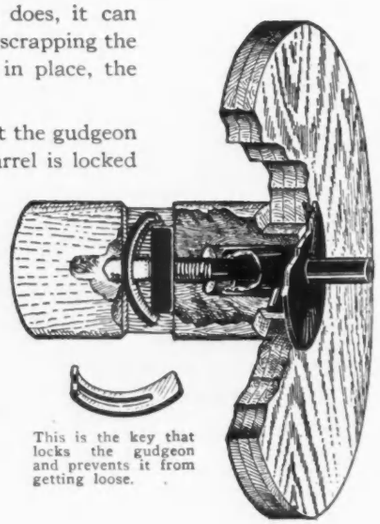

This is the key that locks the gudgeon and prevents it from getting loose.

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COTTON GOODS MARKETS

Crop Report Surprises Cotton Goods Trade

Condition Too Low, Trade Feels—Contracts on Print Cloths Offered at Low Prices

Considerable surprise was felt in the goods market at the Government's report published on Wednesday giving a condition figure of 67.2 for the new crop, as of July 25, and an indicated yield of 11,516,000 bales. Previous private reports indicated a much higher condition figure, the average of those made public prior to the Bureau being about 70, and a somewhat larger yield. The trade generally had expected that the Government would approximate this figure.

As this is written it is much too early to appraise properly the reaction of cotton goods to this report, many in the trade feeling that it should take about a week to digest the full meaning of the figures and draw sensible conclusions regarding probable developments as a result of it.

Print Cloth Inquiry Spurred

On the New York Exchange the staple jumped over 100 points immediately following the report. Numerous inquiries for print cloths at the low prices quoted before the report were about the market Wednesday afternoon, but it is understood that practically none of these resulted in contract business. Many commission houses adopted the policy of temporarily refusing to quote on any constructions, and of not accepting business at recently quoted low prices without obtaining confirmation from mills.

In well informed quarters the opinion was frequently expressed that gray goods buyers would now make strenuous efforts to place contract business at the low basis represented by 38½ in. 64 x 60s at 8½c. and that these efforts would not be successful.

So far as gray goods are concerned it seems likely that the report will serve the purpose of definitely halting the downward march of prices, at least for the time being. Prophets of 15c. cotton are permanently discredited, and considerable opinion exists to the effect that October will not sell down to 20c. in the near future.

Effect on Finished Goods Doubted

In finished goods the effect of the report will not be marked, it is felt. The generally doubting attitude adopted by the trade toward the Government's condition estimate, should increase, if anything, the buyer's uncertainty regarding the entire crop situation. August is the month in which the crop is really made, and it is considered probable that the jobber will wait for September before considering placing sizable orders.

Cotton Goods Trade Notes

At a meeting of the directors of Cannon Mills, Inc., on Tuesday the following officers were elected to fill the vacancies caused by the recent deaths of John C. Leslie, president and treasurer, and Martin P. Glynn, secretary: C. A. Cannon, president; F. A. Williams, first vice-president; S. D. Arrowood, treasurer; W. R. Huber, secretary.

A certain amount of trade criticism of the latest crop report runs along these lines: Realizing that the acreage figure of 38,287,000 published July 2 was probably too high, the Government figures in the latest report leaned in the opposite direction in reporting the condition. This, of course, is one way of maintaining approximately unchanged the estimated yield given in the two reports.

The 10 year average condition reported by the Government on Aug. 1 is 72.4. In 1919 with condition reported at 67.1 on that date, with an acreage of 35,133,000, the yield was 11,030,000 bales.

Fred Butterfield & Co. announce that Normandy voile has been sold up for the rest of the year. New prices for the first three months of 1924 will be made around the middle of this month.

Varying reports are heard regarding the business received on percales at the new prices announced last week, but it is still probably too early for definite conclusions to be drawn.

Commercial Attache Cross at Brussels reports to the Department of Commerce regarding the Belgian cotton goods market: "Mill stocks of piece goods have been entirely absorbed. The South American market is at present extremely active."

GREENSBORO, N. C. Pomona Mills, Inc., recently purchased property adjacent to their plant here with a possible view of enlarging.

British Cotton Exports

(From Our Regular Correspondent)

MANCHESTER, ENG.—Cotton yarns and manufacturers amounting to £17,046,892 were shipped from the United Kingdom during May, making the total for the first five months of the year £75,870,178 out of a total of manufactured articles of all kinds of £243,117,037. Last year the corresponding figures were £15,734,375, £76,366,131, and £240,933,359, respectively. Piece goods alone in May were valued at £13,414,650 and for the five months ended May £59,679,860. A sum of £1,909,927 was absorbed by yarn exports and £8,606,041 for the period January-May inclusive. With the exception of July, 1922, when the total square yardage was 443,609,800 piece goods figures, as far as quantities are concerned, at 409,692,600 square yards for May, have not been exceeded since May, 1920. In April the exports were 316,278,700 square yards, in March 337,411,500, in February 342,558,500 and in January 399,988,200, or a total of 1,806,199,500 for the five months against 1,538,952,700 square yards in the similar period of last year. The total weight of cotton yarns sent abroad in May (12,574,500 lb.) although an improvement on April (10,895,400) and February (10,881,600) is less than in March and January when the figures were 13,030,200 and 12,814,700 respectively. For the five months ended May the amount was 60,196,400 lb. compared with 90,565,200 in the corresponding period of 1922.

ALBANY, GA. The Atlanta office of Lockwood, Greene & Co., engineers, is conducting an industrial survey for the Albany Chamber of Commerce, to obtain accurate and reliable information as to the opportunities Albany offers for the establishment of new industries. On completion of the survey the Chamber of Commerce proposes to conduct a campaign to secure new industries.

Comparative Quotations

	Aug. 2	July 26	Aug. 2, 1922
Spot Cotton, New York	23.00	23.55c.	21.70c.
Print Cloths:			
27 -in., 64x60, 7.60 yd.	6¼c.	6¼c.	6¼c.
38½-in., 64x60, 5.35 yd.	8⅝c.	8⅝c.	8⅝c.
39 -in., 68x72, 4.75 yd.	10⅛c.	10⅛c.	9⅝c.
39 -in., 72x76, 4.25 yd.	11c.	11c.	11⅜c.
Brown Sheetings:			
36 -in., 56x60, 4 yd.	10⅝c.	10¾c.	10½c.
36 -in., 48x48, 3 yd.	13¼c.	13¼–13½c.	11½c.
37 -in., 48x48, 4 yd.	9⅝c.	10c.	9¾c.
Pajama Checks:			
36½-in., 72x80, 4.70 yd.	10¾c.	10¾c.	10¼c.
36½-in., 64x60, 5.70 yd.	8¾c.	8¾c.	8⅝c.
Drills, 37-in., 3 yd.	13¼c.	13½c.	12¼c.
Denims, 2-20s (indigo)	23c.	23c.	19½c.
Tickings, 8-oz.	25–30c.	25–30c.	22½c.
Standard Prints	11c.	11c.	10¼c.
Standard Staple Ginghams	19c.	19c.	14¼c.

Lancashire Pleased With Lower Prices

Slump in Raw Cotton Expected to Revive Activity in Yarn and Cloth

Manchester, Eng., Aug. 2 (*Special Cable to* TEXTILE WORLD)—The slump in raw cotton prices has been received in Lancashire with a feeling of satisfaction. It has been recognized for a long time, that trade in yarn and cloth would not develop until values were on a lower level. The violent fluctuations in futures which are now taking place are very disturbing, but the opinion is strongly held that if prices will steady at a little below current rates, increased activity will prevail in the near future in yarn and cloth.

There is plenty of evidence for believing that customers abroad are in need of fresh supplies but prices will have to stabilize before substantial contracts are placed.

American yarn quotations have fallen quite equal to the decline in raw cotton and here and there rather more business has been done.

Operations in Egyptian yarns have been patchy at slightly easier rates.

The fresh level of values has brought out a larger inquiry in piece goods during the last day or two.

Shippers to India have tested manufacturers on a freer scale but not many orders of importance have been booked.

Trade for China continues to be hampered by the political crisis in the Far East.

The members of the Master Spinners Federation have rejected the Control Board scheme by a large majority.

Index number for the week is 204.

To Protect Stored Cotton

ATLANTA, GA.—Protection of cotton growers in Georgia against loss of their cotton while in warehouse storage by fire or in any other way, is advocated in a bill introduced in the Georgia legislature last week. Under the terms of the bill all warehouse companies accepting cotton for storage would be required immediately to insure same against fire, and bond it against theft or loss in any other way.

To Draw Industry to Georgia

ATLANTA, GA.—The Georgia Industrial Bureau, organized by business men throughout the State to secure new industries for Georgia, has established permanent headquarters in Atlanta at 324 Hurt Bldg. The bureau is to co-operate with the Georgia Railway & Power Co., of Atlanta, in an exhibit at the International Textile Show at Boston.

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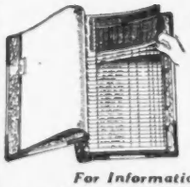

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WOOL GOODS MARKETS

Active Spring Trade in Women's Wear

Fabrics Previously Successful Will Be Continued—New Prices Attractive

The women's wear situation has been clarified somewhat by the opening of spring, 1924, goods by the American Woolen Co. this week as reported in detail in another column of this issue. The new prices in this quarter, though showing an advance over the opening rates for the fall, 1923, season, thus protecting buyers who have goods still coming to them on the former basis, are low enough to make the merchandise appear a good buy to the trade. Support by buyers was immediate and bore out the expectations of the company. It was stated by those close to the company that the line would be withdrawn at the end of the week and that the production would be allotted.

Feature Pile Sheen Goods

Examination of the American's line shows that preparation is made for another big season in coatings of the Bolivia order. A wide range of qualities in this class of fabric was closely priced. The company's Ormadale, for example, which opened for fall at $6 and on which buyers say the open market recently has been $6.10 to $6.25 net, was opened for spring at $6.17½. It was a matter of comment on the sales floor that higher prices might have been obtained but the company's policy was interpreted as a plan to have prices right not only at opening but six months from now when the goods are being delivered and cut up. The policy of helping one's customers to make money is being recognized more and more on the market as the best way to hold old customers and get new ones. It is a policy which is being practised by successful houses in a variety of ways. It is also clearly an advantage to name prices which are unlikely to be upset by competition later in the season.

Contrast with Men's Wear

The willingness of women's wear buyers to operate marks them in sharp distinction from the men's wear trade which has been dull and which is taking hold of the new season sluggishly. The prime interest in women's wear is in the novelties which will be good for spring, and preparations are being made for wider use than for some time of plaids and stripes in semi-sport clothing. In more formal dress the twill and the rep are probable leaders with further development of wool crepes and a possible rise of wool moires. In coatings the pile sheen fabric will still be good with the introduction of novelty effects in this same weave and finish serving to broaden the use of this fabric.

Women's Wear Trade Notes

The Greenwich Mills have opened their line of fine worsted dress fabrics, including single warp poiret twills, tricotines and twill cords adaptable for the dress and suit trade; also an extensive line of novelty skirtings.

Evidence is multiplying that the fall will be a coat and dress season with the suit comparatively speaking in the background. This may also be argued from the fact that the style show given in conjunction with the National Merchandise Fair presented so few suit models as compared with the dresses and coats shown.

A number of brushed and shaggy effect cloths are finding new interest in the realm of separate skirts for sport wear with a jacket made of knitted or other material.

The foreshadowing of alpacas for women's wear is being watched with interest by those who are in a position to supply them.

Certain importers are about to show mohair velours and chinchillas made in England which, it is believed, may have considerable vogue here.

Restrict Output in Bradford District

See Little Chance of Improvement in Near Future—Hand-to-Mouth Buying

BRADFORD, ENG., Aug. 2 (*Special Cable to* TEXTILE WORLD.)—The advent of the holiday season makes it unlikely that business will improve in the near future. Orders to hand for spring and summer goods are disappointing in volume and this fact coupled with hand-to-mouth buying of tops and yarns is causing firms generally to restrict output with a view to spreading employment over as long a period as possible. A large number of firms are closing for a fortnight's holiday instead of the usual week.

The home trade is the weakest branch and the market is so disturbed by cheap imports that distributors will not carry stock. In export trade, shipments to Japan, Australia and Canada are good but trade as a whole tends to get worse.

Quotations are barely steady at 60d. for 64s; 33½d. for 56s; 17¼d. for 46s; 6s. 3d. for 2-48s botany yarn.

Wool textile index of Weekly Wool Chart for July was 157, lowest since last September, compared with 161 in June and 141 a year ago.

Men's Wear Spring Start Is Sluggish

Buyers Are Indifferent — Lower Prices Would Not Have Developed Trade

The men's wear market is getting under way slowly for the spring, 1924 season. It is so far indicated that buyers are not in the frame of mind which results in business, and it is more this indifferent attitude than the mere matter of price which lies behind the inactivity at the current seasonal opening. The general price level as set by the American Woolen Co. has won praise from both sides of the market, yet the very buyers who admit that the goods are priced right may refuse to commit themselves ahead. Merchants do not believe that forward business could be secured in large volume at the present time by the naming of cut prices, and they feel that a firm opening will cause a gradual spread of confidence which will react to the market's benefit before many weeks pass.

Showing Is Representative

The full range of men's wear fabrics for the new season is now open in one quarter or another, though particular houses including many prominent producers, are holding back their offering. Lines of fancy worsteds came on the market this week, and it seems that they are due to progress as slowly as staples for the time being. It is notable that the big company has been able to retain a number of low priced ranges in its fancy worsteds, one number being as low as $1.70. Clothiers must have time to absorb the significance of the situation and to work off the merchandise on hand. When a larger part of their assets is transmuted from goods into cash, they will be better able to plan the new season. Because of tied up capital it is clearly indicated that the mill giving the longest time in its terms will be in the most advantageous position to get new business. Short term sellers will apparently meet resistance.

Topcoatings Are Selling

Among the various classes of goods for the new season, none is mentioned with the same enthusiasm as topcoatings. Clothiers have shown more interest in these goods and it is understood that fair business has already actually been placed. The lighter numbers are popular, weights around 14 ounces being taken. In some of the slightly heavier topcoatings, fancy backs have shown themselves, though the material is clearly a hard weaving proposition. Buyers who still have the fancy back fever see a great future for these light-weights. Public sentiment is already primed in their favor and their newness may develop consumer business where there would have been nothing at all in view of the fact that they are new, and similar to the heavier fancy backs which have already proved their popularity.

Men's Wear Trade Notes

Waterhouse Worsted Co. has opened W. & K. serges for spring at prices showing an advance from 3 to 8% over last season. Following are the prices of some of the more important numbers, all figures net: 704, $3.30; 705, $3.40; 706, $3.80; 707, $4.15; 713, $3.35; 721, $2.90; 724, $3.20 net.

William Whitman Co., Inc., has opened Arlington serges and vigoreaux. On the serges the advance is reported as 3 to 7% over the previous season. Prices on leading serge numbers are as follows: 2004, $1.50; 2001, $2.57½; 2272, $1.80; 2340,

(*Continued on page* 129)

Fancy Worsteds Shown

American Woolen Co. Completes Men's Wear Spring Opening

The American Woolen Co. completed its showing for the spring 1924 season by the offering of fancy worsteds in various departments on Wednesday, Aug. 1. The lines are priced close to cost and appear to offer attractive opportunities to the clothing trade.

Piece dyed fancy weave worsteds in Department 1, range from $1.55 to $4.95 and mixtures from $1.80 to $4.75. Department 2 fancies range from $1.70 to $4.85, and Department 7 fancies from $2.67½ to $5.55.

The inclusion of a worsted line as low as $1.70 indicates the effort made to give the clothier a complete range of goods, including something he can use in a garment with low retail price.

The following gives the list of fancy worsted prices arranged by mills in the various departments:

DEPARTMENT 1, DIVISION B
Fancy Weave Worsteds

	Piece Dyes.		Mixtures.	
Washington	$1.55	$4.35	$1.80	$4.15
Wood	1.85	4.95	1.95	4.75
Ayer	1.82½	2.52½	1.85	4.55
Shawsheen	2.60	3.00	2.87½	3.25
Fulton	2.87½	4.37½	2.70	3.72½

DEPARTMENT 2
Fancy Worsted Suitings

National & Providence	2.52½	4.85
Saranac Mills	2.32½	3.60
Arden Mills	3.25	4.15
Champlain Mills	2.25	3.65
Riverside Mills	2.15	4.10
Slater Mills	2.57½	2.90
Manton Mills	2.27½	3.05
Anchor Mills	1.87½	2.57½
Chase Mills	1.97½	3.77½
Weybosset Mills	1.70	2.85
Moosup Mills	2.37½	2.85

DEPARTMENT 7.
Fancy Worsted Suitings

Beoli Mills	2.67½	4.92½
Globe Mills	2.87½	5.05
Puritan Mills	2.90	5.55

DEPARTMENT 8-A.
Standard Worsteds.

Washington Mill	$2.42½	$5.37½

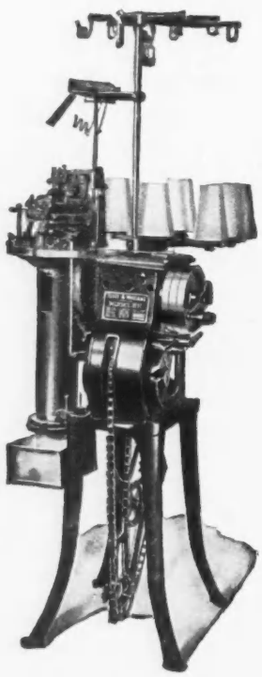
Galter Cloths.

Brown Mills	$4.05	$4.12½

ESTABLISHED 1865

SCOTT & WILLIAMS

INCORPORATED



MODEL H-H

Producing Ribbed Top Half Hose Complete

Ribbed top made on two sets of needles.
Automatic transfer from ribbed stitch to plain.
Eliminating necessity of skilled help.
Saving of raveling waste which occurs when topped by hand.
Each stocking is dropped from the machine when finished.
Each stocking is automatically started upon the empty needles, producing a French welt without drawing thread or cutting, no ends of any kind to be removed.
Machine is fitted with five yarn fingers.
Provision is made for high spliced heel and double sole.
Provision is made for ring top and ring toe.
Needles without rivets or latches.
Speed of machine about the same as Model K.
Production about twelve stockings per hour on 3¾"-220 needles.
One operator can take care of the same number of machines as Model K.
The machine is built in all gauges.

366 Broadway New York

KNIT GOODS MARKETS

No Improvement in Staple Hosiery

General Market Drags, with Immediate Future Not Encouraging

With minor variations staple hosiery continues stagnant in the primary market, and changes of moment in the situation are not expected by many selling agents before September. In several sections a slight improvement is reported in the small-lot, fill-in buying that has been practised by jobbers for months, but it is an improvement only in comparison with recent weeks during which practically nothing at all was done.

It is expected that verbal capital will be made by both buyer and seller of the Government cotton crop report of Wednesday, but it is felt that this report will have little tangible influence on hosiery buying. It seems probable that buyers generally will await the Sept. 1 report before seriously considering sizable commitments on cotton goods.

New Lists Not Wise

Though the price tendency is toward further weakness, and new low levels are reported to have been reached in recent quiet trading, official reductions have not been as numerous or as drastic as might have been expected. It continues entirely a trading market, and best opinion seems to be to the effect that it is useless to make new "list prices" as long as buyers continue their attitude of superior indifference, which would probably be maintained in the face of any offering until there is some assurance of stability in raw material prices. On at least one branded line recent policy has been that all prices were officially "withdrawn."

Buyers claim that they can go into the market and buy merchandise at practically their own prices, and this is undoubtedly approximately correct so far as immediate delivery odd lots and seconds are concerned. In a sense it continues true that there is no market, most transactions being put through on an individual basis.

Infants' Socks Better ?

Several selling agents for important lines of infants' and children's goods report something of an improvement in the situation on this merchandise, which has been so unsettled by reductions and reports of reductions that it was difficult to tell just where it stood. All lines did not adopt the policy of a market leader in quoting different prices for different size ranges, and at least one well known line continues to be sold on a flat price basis.

In several sections it is claimed that business on the books and definitely in prospect is entirely satisfactory. One selling agent handling general lines in addition to infants' socks, said this week that he could truthfully describe the entire business as good if it were all up to the level set by infants socks. Details are said to have been received on many of the blanket orders placed a few weeks ago. It is understood that December-January-February deliveries are well taken care of but that more business would be welcomed generally for nearby months.

Hosiery Trade Notes

This department is in receipt of an inquiry from a subscriber who is interested in having commission knitting done on 160 needle women's in-grain wool hose. One end of 26-2 worsted yarn is used, to be supplied on skeins or cones, preferably skeins. Any mill interested in such work will be placed in touch with the inquirer.

Figured on 20c. cotton it is stated that 176 needle half-hose, ribbed top, costs roughly $1 to make at the present time. Which leaves a handsome profit for the manufacturer at "market" prices of $1.02 to $1.07½, with a few sales of spot goods reported under the lower of these prices.

Sutton & Vande Water are distributing an attractive color card for their line of infants' socks made by Kinsell & Locke, Inc. Fifteen colors are shown in the actual fabric, which appears through cut-outs in the form of miniature socks.

Good duplicate business on wool goods, particularly half-hose, is expected to develop early in September.

An interesting test of the seriousness of a buyer's intentions was made recently. The salesman offered him women's 220-needle mercerized combed yarn goods at $2.37½, to which he responded with a counter offer of $2.25, which was refused. After a little while the buyer returned and offered to accept the $2.37½ price, but the business was not taken. This salesman is convinced that if he had originally offered the goods at $2.25 he would have been met with a counter proposal of $2.15 or $2.12½.

Slow Development In Bathing Suits

Jobbers Operating with Great Caution — Quick Deliveries of Brushed Wool Sweaters

Business is developing slowly and conservatively on bathing suits for next year. Selling agents for leading lines of worsted and cotton suits profess to see nothing out of the way in the attitude of extreme caution which jobbers have shown toward their merchandise; they point out that in acting this way on bathing suits buyers have not singled them out for peculiar action, but are merely following their present general policy on nearly all classes of knit goods.

"We are getting a fair business," a large factor in bathing suits said this week, "but I would be the last to claim that it has been large or even satisfactory so far. Many of our best jobber customers have not been in New York as yet. The specialty shops have been best operators so far. Our men on the road are getting orders right along, but they are not as large or as frequent as we would like. Still I see nothing to worry about in the present situation."

Selling agents apparently feel that the next few weeks will show a decided change for the better. They insist that prices can move in only one direction—upward. In several quarters it is felt that slow development to date is due to the fact that prices were made too soon; mill representatives who prior to the opening went on record to the effect that August was the proper time to make prices, now consider their judgment verified.

Active call for brushed wool sweaters is reported in all sections of the market, quick deliveries being wanted in all cases. Demand for sleeveless sweaters has fallen off decidedly. There is as yet little indication in the primary market of a revival of slipons.

May Buy Notaseme

F. Y. Kitzmiller, until recently of the Taubel-Scott-Kitzmiller Co., Inc., is understood to be negotiating for the purchase of the Notaseme Hosiery Co., Philadelphia. This plant, which has been in the hands of a creditors' committee since 1919, is understood to have been on the market quietly for some time. According to last available information it is equipped with 887 knitting machines, 116 loopers and 35 sewing machines, the nationally advertised seamless hosiery product being sold direct to retailers. Mr. Kitzmiller recently bought the Reading Knitting Mills from Chas. E. Leippe, and the trade is keenly interested in his plans for the future, which have been rumored to include the purchase of several other important plants.

Knitted Outerwear Note

A bathing suit group of the Knitted Outerwear Association may result from a meeting of bathing suit manufacturers held in New York on Monday. Consideration will be given to a publicity campaign to push all-knitted suits, and to make them an all year 'round proposition.

Mixed Situation in Spring Underwear

A Few Lines Sell Well, but Majority Need Business—One Bal Line Withdrawn

It is a somewhat confused and contradictory market on lightweight underwear for next spring. Business on balbriggans has developed sufficiently to make possible the general statement that orders on several of the higher priced lines, quoted at $3.62½ to $3.75, have reached a much more satisfactory total than on cheaper goods priced at $3.37½ to $3.50. One prominent line opened at $3.62½ for shirts and drawers, an advance of 25c. over the opening figure last year, has been sold up to April 1 and withdrawn.

Ribbed Goods Disappointing

Operations on ribbed suits, as a general proposition, are understood to have been disappointing to date. Yet it is understood that an entirely satisfactory volume had been booked up to the middle of the current week on several lines of men's suits opened at $7.25, and it was rumored early in the week that one such line would shortly be withdrawn from sale.

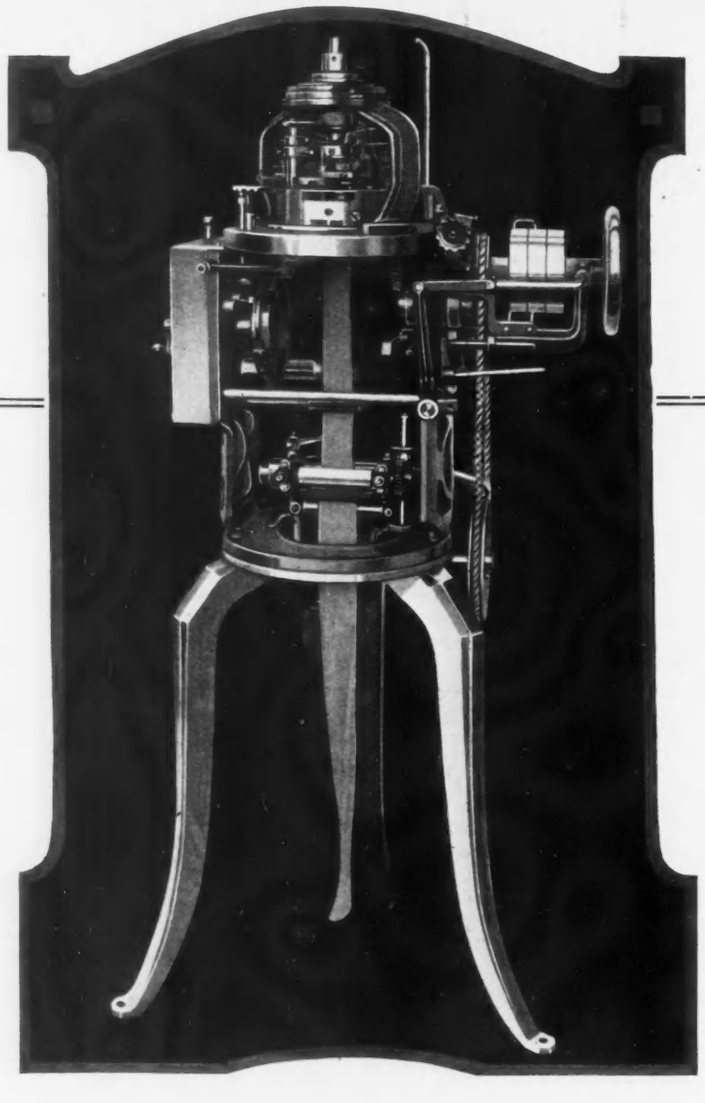
With a few striking examples of successful merchandising it is difficult to draw general conclusions, and hard to account for the seeming lack of success of a good percentage of the merchandise officially opened two weeks ago. At the moment the market seems to be largely a stand-off proposition between buyer and seller. It is to be noted that the advance on those lines of balbriggans which have been most favorably received was roughly 7-7½%, whereas goods about which complaints are heard were marked up 12½%.

Jobbers Seek Reductions

Jobbers are obviously attempting to force reductions in so-called low-end balbriggans. Rumors of concessions on this class of merchandise have been thick in the market ever since the opening, but it has been impossible to confirm any of them. At this writing it looks as if both sides in the inevitable tug-of-war will maintain their position as firmly as possible during August, and that the size of the new cotton crop will be the principal factor in determining the winner.

Thus far business is understood not to have overflowed the offices of the two southern mills which recently named reductions on fall goods for October-November-December delivery. Jobbers are treading lightly in this division of the market also, but it is an accurate statement to make that manufacturers of heavyweights are in a relatively strong position, statistically and fundamentally.

Much fall business undoubtedly has still to be placed, but jobbers as a



Wildman Ribbing Machine

Look at the illustration of a Wildman Circular Ribber. Note the rigid construction of the frame. An inspection of the actual machine will produce even a greater impression of strength.

See a Wildman Ribber in operation at your first opportunity. An illustration cannot show you the accurate parts, moving with perfect mechanical precision, that produce fine and smooth fabric for the knitting industry.

We are always pleased to demonstrate a Wildman Ribber.

On request we will send the "Wildman Ribber Catalogue" giving detailed illustrations and descriptions of every important part of the machine.

We have issued a very complete and informative Book, "The Science of Knitting"—Price $3.00

TRADE MFG MARK

WILDMAN MFG. CO.

NORRISTOWN, PA.

Knit Goods Markets—Continued

class have done well with this merchandise and many of them are believed to be still selling short. The two reductions mentioned above brought the goods involved into line with the general market, and do not forecast any general weakening, selling agents claim. It is worthy of note that the two large production southern mills whose prices for late month deliveries were made some time ago are understood to have about completed their quotas for the season.

Underwear Trade Notes

Napier & Herrick announce that all lines of the Norwich Knitting Co., opened July 19, have been sold up to April 1 and withdrawn from sale. Offerings will be resumed when the mill feels justified in assuming further obligations.

It is reported that one line of balbriggans opened at $3.50 has so far booked roughly one-third of the business taken during the same period last year.

Weaker cotton and yarns, and percales priced on 17-18c. cotton do not add strength to the seller's position. More comment has been caused in the knit goods markets by the percale prices announced last week than any other recent event. Jobbers are making maximum use of them as an argument in support of their lower price claims.

Business on lightweights has been better from New England than from any other section of the country, it is generally agreed, but no satisfactory explanation has yet been heard as to way this should be true.

Buyers are demanding price, guarantees on spring goods, and it is understood that they have been given, in instances. This gives rise to the peculiar possibility that mills with little business on their books at this time may be in a more comfortable position eventually than those which have already taken a considerable volume.

The Cooper Underwear Co., selling direct, this week opened lines for next spring, at prices somewhat advanced from those named last year. Business on spring deliveries of hosiery is being taken on the basis of present prices.

Better Sheep in Tenn.

WASHINGTON, D. C.—Wool growers in several counties in middle Tennessee, including backwoods communities, are improving their sheep flocks by the use of pure-bred sires, according to reports received by the Department of Agriculture from C. C. Flanery, of the Tennessee Extension Service. Recently 78 farmers signed agreements to use pure-bred sires exclusively under the "Better Sires—Better Stock" plan. The drive is being continued and live-stock judging is to be a feature of the activities at "club" camps.

Italian Art. Silk Exports

Sharp Decrease Noted as U. S. Produces More

WASHINGTON, D. C.—Exports of artificial silk from the Lombardy District of Italy to the United States, decreased from 87,519 lbs., valued at $135,449 in 1921 to 5,359 lbs., with a value of $7,869 during 1922, according to a report from Consul C. Carrigan, Milan, received by the Textile Division, Bureau of Foreign and Domestic Commerce.

Probably the principal cause for the decreasing shipments to the United States is the rapid development of the artificial silk industry which has taken place in the United States during the last few years, with a consequent increase in production practically up to domestic needs. An incidental factor has been the advance in the United States import duty on artificial silk yarns from 35% to a minimum of 45%, although this change did not take place until late in September.

The Italian artificial silk industry produces about 13,000 kilos per day, of which some 30% is consumed at home. The European markets to which this product is exported are principally Switzerland, Germany and, to a lesser degree, France. There is also a small exchange between Italy and Belgium, according to market conditions, both of these countries producing artificial silk in excess of their own needs.

Men's Wear Trade Notes

(*Continued from page 125*)

$2.82½; 2400, $3.40; 2458, $2.72½. Prices of vigoreaux range from $2.15 to $2.50.

H. P. McKenney & Co. have opened suitings for spring ranging in price from 44 to 60c. The lines include plain and decorated fancy suitings, staples, tweeds, checks, silk stripes, etc., from the following mills: A. G. Dewey Co., H. T. Hayward, Hayward Woolen Co., Schuster Woolen Co., Taft Woolen Co., and Braeburn Woolen Co.

The Joseph Benn Corp. has opened its line of mohairs at prices 2½ to 5% less than its prices of last November. In comparison with a year ago at this time, the prices show an increase of 2½ to 7½%. The range is $1.67½ to $2.27½.

James J. Regan Mfg. Co. has opened a line of topcoatings, silk striped suitings and staples, the topcoatings in the higher grades being fancy backs, at prices up to $3.25.

Parker, Wilder & Co. are showing lines for spring, 1924, including the following: Cocheco, 900 fabric, new, $2.25; 800 standard, $2.60; Talbot A-10, plain weave, $2.30; A-11 twill, $2.60; B-1150, $2; I-111, $2.25. All prices are quoted regular.

The Yorkshire Worsted Mills are showing 30-inch tropicals at $1.20.

Arthur Joel & Co. have opened 1000 range, all worsted, and 1500 cotton

LEESONA
REG. U.S. PAT. OFF.

"Leesona" is a mark indicating quality and service. It is not an advertising catch-word and is more than a mark of a machine or a group of machines, or the house-mark of an organization.

"Leesona" is the mark of a great Industrial Service known throughout the world, reaching every manufacturing process where perfect winding of thread, yarn, fibre or filament is essential.

Back of "Leesona" is an organization of winding Engineers,—the Universal Winding Company, with its main offices at Boston and branch offices in practically every important industrial community in the world, each equipped and ready to give that chief thing for which "Leesona" stands—SERVICE.

Machines bearing the "Leesona" mark have revolutionized many industries, reducing waste, lowering production costs, increasing production and improving quality.

As a result of the Service which is "Leesona" any manufacturer, in any field, who has a winding problem can call on the Universal Winding Company for a solution of that problem, with the assurance that his inquiry will receive the same attention that has made the "Leesona" mark famous in every corner of the globe.

UNIVERSAL WINDING COMPANY

Providence, New York, Chicago — Philadelphia, Charlotte, Utica

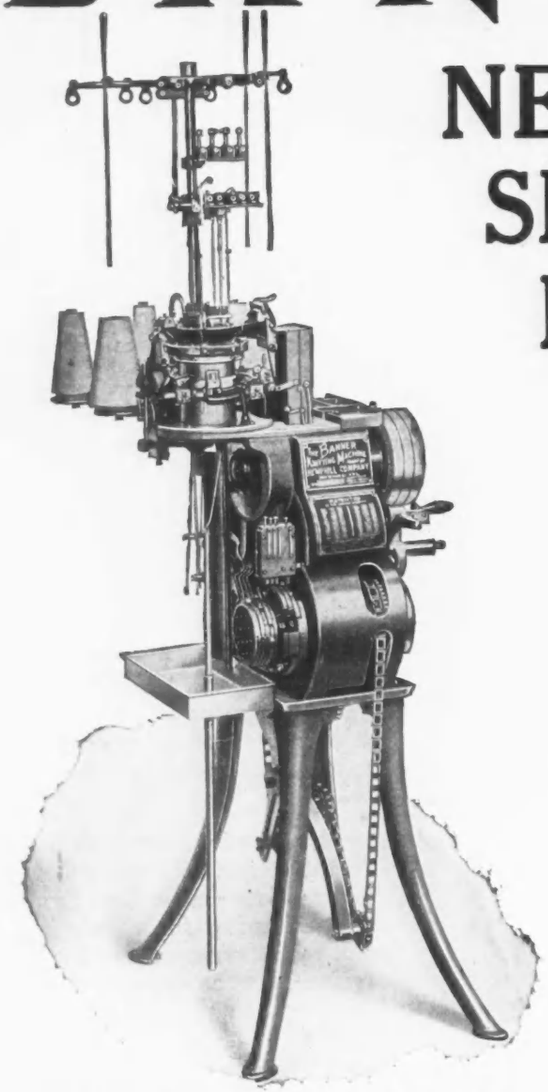
LEESONA REG. U. S. PAT. OFF.

BOSTON

Montreal and Hamilton, Canada
DEPOTS AND OFFICES AT MANCHESTER AND PARIS

BANNER

NEW MODEL SPLIT-FOOT MACHINE



for making the highest quality of circular knit hosiery, doing away with all unsightly trimmed splicing yarns.

The leading hosiery mills of the country are using them in large quantities. It is a fast and economical producer and its product is the last word in circular knit hosiery.

Write for circular

HEMPHILL COMPANY

Main Office and Factory
PAWTUCKET, RHODE ISLAND

Philadelphia Office
Colonial Trust Building, Philadelphia, Pa.

Southern Office
James Building
Chattanooga, Tenn.

Canadian Office
Gore Building
Hamilton, Ontario

warp cream serges made by Prudential Worsted Co. Prices range from $1.47½ to $2.75 and a number of new striped effects are shown.

J. B. Scofield has opened Shelbourne Mills tropicals, including piece dyes, skein dyes and mixtures, two-ply both ways, at $2.15 to $2.40 net a yard. Prices show an advance of about 20c. over last year.

Deering, Milliken & Co. cream flannels for the summer of 1924 at $2.50 to $3.62½ regular and a line of striped flannels at $3.75 regular.

George Mabbett & Sons Co. has opened lines for the spring season with prices ranging from $3.50 to $4.50 net.

A. W. Prices Women's Wear

(Continued from page 77)

teresting to the garment trade because of the opportunity it offers for the production of attractive $5.00 dresses.

The Polaire line has been developed to a most extensive length with fancy plaids, block plaids, Roman stripes, awning stripes, etc., in a full range of colors on tan or gray grounds, supplementing the regular forms of Polaire in solid shades. The Deauville sport Polaires have a lofty dense face. Two tweeds are shown in the collection in bright color mixtures for sport and semi-sport suits.

The new colors in which the line of pile sheen coatings is offered will be helpful in continuing the popularity of these fabrics from the fall into the spring season. The presentation of cut-pile sheen fabrics in plaids and stripes is a new feature, and removes the fabrics from the strictly formal class and lends a novelty touch to a familiar staple.

Sample pieces will be delivered in October and November and the balance during December, January, February and March.

Following is a list of repeat numbers which gives camparison between prices named this week and those of the fall, 1923, opening:

PILE SHEEN FABRICS

Style number	Fall 1923	Spring 1924	Per cent. rise
09213	4.77½	4.82½	1.0
0599	5.12½	5.20	1.4
0658	3.22½	3.35	3.7
1353	3.87½	4.30	11.0
21471	6.00	6.17½	2.8
21384	6.20	6.40	3.2
21425	6.37½	6.75	5.8
18209	5.67½	6.00	5.7
0582	5.05	5.37½	6.4
TWILLS			
09163	2.10	2.22½	5.9
09164	2.15	2.25	4.6
0591	2.07½	2.17½	4.8
0592	2.10	2.25	7.1
160	3.00	3.25	8.3
172	3.05	3.25	6.6
0520	2.27½	2.42½	6.6
VELOUR			
16052	1.17½	1.27½	8.5

Dept. 4 Spring Offering

The following list gives a complete review of the fabrics shown in Department 4 for spring, 1924, with names, style numbers, prices and weights:

DEPARTMENT FOUR
SPRING, 1924, SEASON
Pile Sheen Fabrics

Name	Style	Price	Weight Ounces
Reutnesn	I-13167	$3.37½	16
Alvarado	X-16074	3.45	16½
Ambrizette	X-16076	3.62½	17
Mentosa	X-16075	3.62½	16/17
Delwyne	I-13174	4.00	16
Xcella	X-16061	4.17½	16
Glendana	X-16077	4.25	16/17
Raimondi	X-16078	4.25	16
Truvonnet	I-1353	4.30	16
Algomah	I-13175	4.32½	16
Avondale	U-18218	4.62½	16/17
Kamasan	A-0665	4.75	15/16
Sealbloom	AA-09213	4.82½	17
Delorosa	I-13179	4.82½	19
Ardenay	A-0642	4.95	17/18
Pagosa	AA-09236	5.07½	19
Avanzada	A-0599	5.20	17/18
Bonivoine	A-0582	5.37½	17/18
Veloraine	A-0656	5.42½	17/18
Monette	T-18209	6.00	16/17
Ormadale	TT-21371	6.17½	16/17
Fauvette	TT-21429	6.32½	18
Velverette	TT-21384	6.40	17/18
Burolaine	TT-21425	6.75	16/17

Cut Pile Sheen Fabrics (Plaids and Stripes)

Name	Style	Price	Weight Ounces
Moissan	U-18242	$4.62½	17/18
Gwendolaine	A-0658	5.42½	17/18
Bangalore	A-0659	5.42½	17/18
Dausant	TT-21427	6.25	16
Cheronti	TT-21426	6.25	15/16

Normandy Fabrics

Name	Style	Price	Weight Ounces
Valpreee	A-0661	$3.00	16/17
Ronalda	A-0648	3.17½	16/17
Granada	A-0628	3.35	17/18

Twills

Name	Style	Price	Weight Ounces
	A-0591	$2.17½	10½
	AA-09163	2.22½	10
	AA-09164	2.25	10
	AA-09266	2.25	10
	A-0592	2.25	10½
	A-0520	2.42½	10
	AA-09262	2.77½	11
	E-192	2.80	9½
	E-186	2.87½	11
	AA-09234	2.90	11
Poiret Sheen	AA-09252	2.95	11½
	E-190	2.97½	11
	A-0645	3.05	12½
	AA-09259	3.10	11/11½
	E-160	3.25	11½
	E-172	3.25	11½
	AA-09140	3.57½	12½
	AA-09253	3.62½	12/12½
	AA-09254	3.67½	12½
	DD-08001	3.80	13

Pencil and Self-Stripe Twills

Name	Style	Price	Weight Ounces
	AA-09247	$2.37½	10
	E-180	2.62½	10
	E-182	2.65	10
	AA-09246	2.82½	11

Repps

Name	Style	Price	Weight Ounces
Repp-o-laine	AA-09243	$1.72½	9
	AA-09256	2.90	11
Cordiere	AA-09245	3.17½	10

Novelty Cheviots (Suitings)

Name	Style	Price	Weight Ounces
Balma Tweed	A-01321	$1.45–1.50	11
Baska Tweed	A-01332	1.72½–1.77½	12

Polaires

Name	Style	Price	Weight Ounces
	S-11022	$1.42½	16
	S-11020	$1.47½–1.50	18
	S-11021	1.50	18
	I-13137	1.70	14
	I-13138	1.75	14
	I-13139	1.82½	14
	I-13151	1.92½	16
	I-13142	1.92½	16
	I-13140	1.95	14
	I-13145	2.32½	18
	I-13132	2.32½	18
	(cotton warp)		
Llamalaine	I-13148	2.37½	16

Luster Pile Polaires

Name	Style	Price	Weight Ounces
	I-13149	$2.45	16
	I-13135	2.57½	19
	K-15160	2.40	17½/18
	K-15158	2.42½	16/16½
	K-15155	2.55	17½/18
	K-15162	2.62½	17/17½
	K-15163	2.62½	17/17½
	K-15165	2.82½	17/17½
	K-15169	3.00	18½/19
	K-15167	3.15	16/16½
	K-15170	3.25	17½/18

Fancy Stripe and Plaid Polaires

Name	Style	Price	Weight Ounces
	S-11021	$1.52½	18
	S-11020	1.52½–1.62½	18
Deauville Sport Polaires	K-15154	$2.05–2.15	16/16½
	K-15153	2.45	16½/17
	K-15156	2.60–2.67½	17½/18

Light Weight Velours

Name	Style	Price	Weight Ounces
	I-13125	$1.67½	10
	I-1307	1.75	10

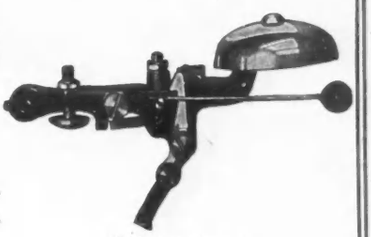
Heavy Weight Velours and Meltons
(For Delivery End of Year)

Name	Style	Price	Weight Ounces
	I-13183	$1.25	18
	X-16052	1.27½	20/21
	I-13177	1.42½	18
	I-13165	1.50	18
	I-13178	1.52½	20
	I-13168	1.67½	18

PARAMOUNT
LOOPER ATTACHMENTS

Increase Production Reduce Seconds
Save Looping Thread
Simplify Entire Looping Operation

Paramount Chain Cutter and Stripper

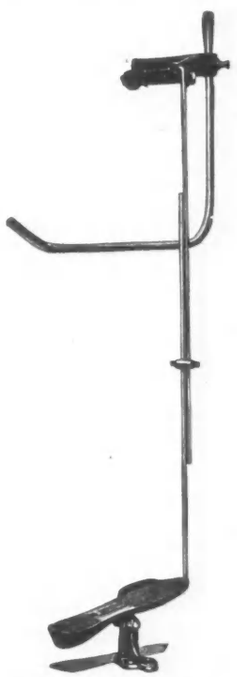


Bell Attachment

THE CHAIN CUTTER automatically severs the chain connecting looped stockings, leaving one-fourth of an inch chain on each side of the toe. It eliminates the necessity of cutting the stockings apart by hand, thus relieving the operator and increasing production.

THE STRIPPER automatically removes the stockings from the looper.

THE BELL ATTACHMENT signals if stitch is missed or thread is broken. It is a positive guard against stockings passing the sewing device when there is a broken thread, with the consequent saving of seconds.



Foot-Stop Motion and Adjustable Arm

THE FOOT STOP MOTION enables the operator to stop or start looping machine by pressure of the foot, regulate spacing between stockings and work without interruption, thus increasing production and saving looping thread. THE ADJUSTABLE ARM catches the stockings after they have been removed from the points by the STRIPPER.

These ATTACHMENTS furnished for all makes of machines and installed on either a Sale or Rental basis.

If you desire further particulars or demonstration write us.

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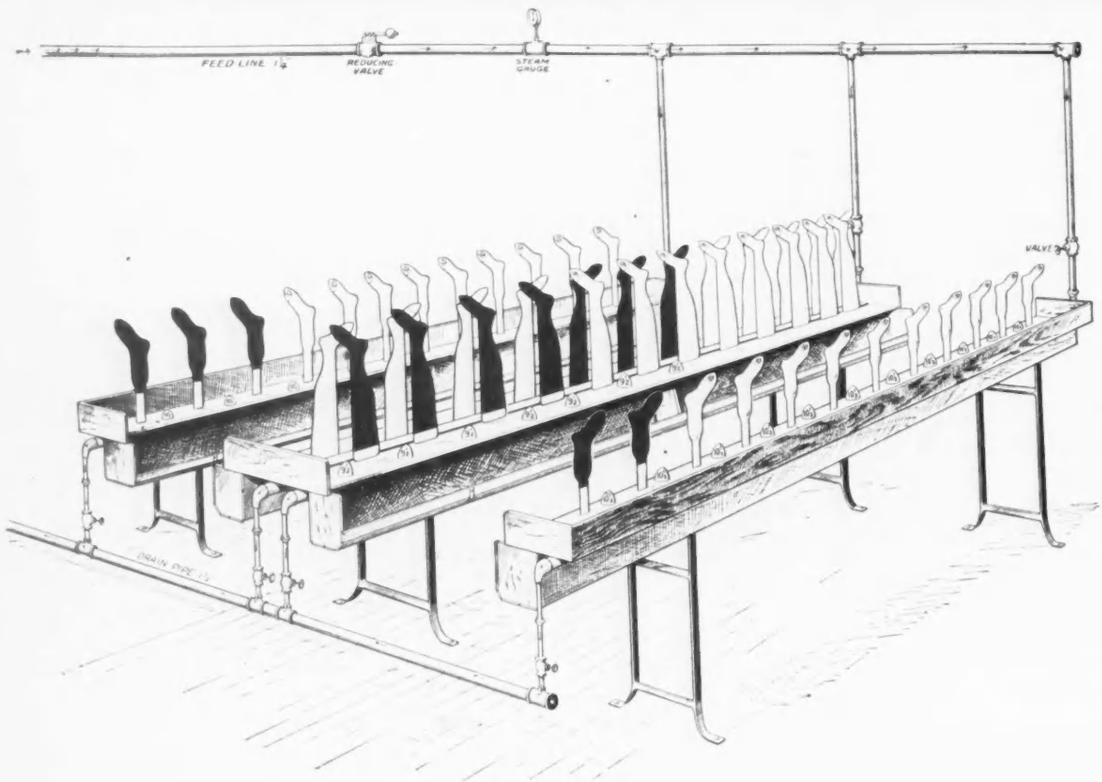

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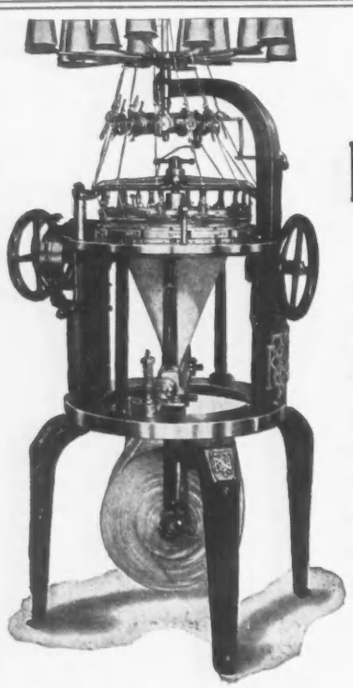
Mfg. of Adjustable and Single Metal Drying Forms



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production and economical operation have combined to make NYE & TREDICK knitters popular for a generation in those mills where fabric of the highest quality is made at a price which assures satisfactory margins.

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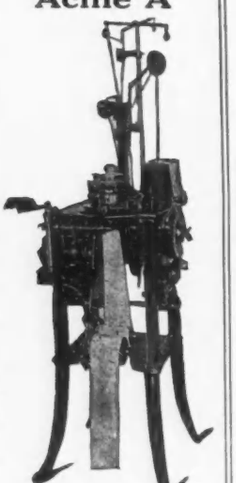
Acme A



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are the
ACME PRODUCTS
made for
SERVICE
in the
KNITTING ROOM

Acme D

Revolving Needles

Ask those who use them
Acme Knitting Machine and Needle Co. Franklin, N. H.

SILK GOODS MARKETS

Decline in Raw Silk Deters Goods Buyers

Broad Silk Prices Soft With a Few Exceptions—Velvets Good for Fall Season

A further decline in raw silk offered scant encouragement to those who professed to see a definite turn for the better in the slight quickening of interest which was noted a week ago. About the only ray of sunshine right now is the fact that the drop in quotations is proceeding at such a rapid pace that unless the bottom drops out altogether, a level must soon be found at which manufacturers will be able to operate with fair assurance and below which the reelers abroad will be unwilling to sacrifice their stocks. It is extremely difficult to prophesy just when this level will be reached, although the decline of $2.50 a pound already recorded is a long step in that direction.

Prices of finished goods are soft with stocks beginning to accumulate on the shelves of dealers. Satin Canton and satin crepes, in which qualities the present demand centers, show the best resistance to the downward trend and manufacturers are asking and getting prices only 5 to 10c. a yard below prices of three months ago. However, other crepes which can be considered staples do not offer the same resistance and a cheap quality of crepe de chine for instance which was popular and sold at $1.07½ a yard and higher can now be bought for below 95 cents. The latter illustration is typical and indicates the price situation with higher priced goods down proportionately more.

The Merchandise Fair was not expected to help much except in an indirect way although it was hoped that buyers who came on for the fair might place some business. This, however, has not materialized to any great extent. The coming month is now expected to bring improvement, for retailers are in few instances covered into September. The cutters have likewise been holding off and as soon as attractive levels are reached will undoubtedly come into the market in a more substantial way. Velvets which were so popular for the past fall season are again in demand and it is reported that manufacturers are booked well into the fall.

Interest in Silk Firm

Robert P. Kridel & Co., Inc., have purchased a half interest in the firm of H. D. Tremblau, Inc., which has mills at Emaus and Coopersburg, Pa. The former concern was recently incorporated and is being factored by J. Kridel Sons & Co., with whom Robert P. Kridel was formerly connected.

Cocoons in Chefoo

An account of the cocoon production of Chefoo, China, for this spring gives encouraging evidence of the sericulture work which is being carried on there. The Shanghai International Testing House of the United States Testing Co. has reported communications received from Mr. Sugden, Commissioner of Customs of Chefoo and in charge of the work for the improvement of sericulture, as follows: "Our cocoons of wild silk yielded 75% healthy moths, a nice improvement on the 15% from picked cocoons given last spring. Also, which seems even more important, cocoons bought at random in districts where our clean eggs were given out last spring, gave a healthy yield of 35%, a good contrast to the 15% yield of last year. We have at last succeeded in buying an oak plantation near Ninghai. It is in the best locality, well planted with oak, and covers an area of nearly a mile in length along hillside and valley. We have about a dozen men looking after the works there and studying the question generally. This means that we should be able to supply the eggs for a large area this summer and for any area next year."

Raw Silk Lower

Buyers Defer Purchases as Prices Weaken—Stocks Low

Prices in the New York market declined steadily during the week, reflecting the waiting attitude of manufacturers. Despite the attractive level which quotations have reached as compared with what obtained only a few months ago, there is little incentive to cover requirements.

Few of the larger users are covered for any length of time ahead and the smaller manufacturers have simply bought filling in lots as needed. Importers' stocks are at a low point and poorly assorted and certain ones are even unable to supply their customers' needs for spot silk in any grade. The situation seems to be the exact opposite of what has been the case in every other serious break. Eventually importers will deem it advisable to replenish stocks and the larger users to cover themselves for several months.

Prices are as follows:

Japan Filature:		
Double Extra A	13/15	$7.55
Double Extra B	"	7.45
Extra	"	7.25
Best No. 1/X	"	7.10
Best No. 1	"	7.00
Kansai No. 1	"	6.95
Four Months Basis.		
Canton New Style	14/16	6.85
Canton New Style	20/22	6.35
Italian Extra Classical		7.85

In the struggle to keep down costs many and various have been the expedients which manufacturers have been forced to resort to. Combinations of raw silk with artificial, spun silk, wool, and cotton are all in general use but the steadily increasing consumption of artificial silk bears eloquent testimony as to which is the most popular. The finer sizes have been used extensively in hosiery for several years but it is in the broadsilk field that the biggest progress has been recorded of late. Combined with raw silk its use in crepe yarns is the latest development. Two or three threads of raw silk together with one thread of sixty denier artificial are given the requisite number of turns and the crepe produced compares very favorably with the all silk yarn. Woven into a fairly heav quality of Canton crepe, it is difficult to detect any differe e save for the fact that it creases rather easily and has not the soft feel of the all silk material.

SUMMARY OF RAW SILK CABLES

Trading in Yokohama during the week dwindled to small proportions, reflecting an utter lack of interest on the part of buyers. Stocks are on the increase, amounting now to 29,000 bales. This latter figure should not be accepted as a true criterion of the situation, for it is probable that a considerable quantity of silk is being held in the interior awaiting more favorable market conditions in Yokohama. Prices have declined steadily: XXA, for instance, which was quoted at 2,000 yen at the beginning of the week, dropped to 1,900 yen, at which figure importers were evidently more willing to operate, for transactions increased to 1,200 bales. Increase in activity on the Bourse was noted at the low point and possibly it is significant that deliveries for December are only a few yen below the spot month. Canton remains quiet, with reelers unwilling at the moment to make further concessions. With prices for Japan so low, however, it is believed that somewhat lower levels for Cantons will be necessary to bring them in line. Other primary markets were quiet, with little or no activity.

Spotty Conditions in Ribbon Market

Further Drop in Raw Silk Disturbing Factor—Tinsels Well Liked

The ribbon market continued to be a quiet affair during the last week and the same uneven conditions which have characterized it since the middle of May were very apparent. While a number of the larger firms maintain that their sales are holding up satisfactorily, sustained interest was lacking. Buyers evidence a strong disinclination to order for any length of time ahead in view of the present uncertainties.

Further weakness in raw silk which developed at the end of the week had a disturbing effect for it is unquestionably a fact that a falling raw market does not make for confidence. Despite all this, demand was slightly better than the previous week due possibly to the presence of buyers in for the Merchandise Fair and although the general run or orders was small, the total was encouraging. Tinsels continue to be well liked for trimmings and other decorative effects. Plisses are being used for sashes, girdles, and hats. Although it is still too early to determine definitely the style trend for the coming season, it is the encouraging belief that ribbons will be used extensively.

Ribbon Note

A number of stores are featuring metallics for evening wear. In the narrow widths plisses seem to be the most popular and in the wides moires and satin faced moires.

Fukui on Chinese Silk

The silk weavers of the Fukui district of Japan have subsidized the habutae weavers in trying out raw silk imported from China, says Commercial Attache J. F. Abbott, in a report to the Department of Commerce. Weaving has begun with this material. It is reported that the quality and color are excellent, and that the laid-down price of the raw material in Fukui is 1,040 yen, including the duty, which makes the Chinese silk a great deal cheaper than the Japanese product.

Swiss Co. to Build New Plant

The Swiss Borvisk Co., through a subsidiary, will shortly begin the manufacture of artificial silk in Switzerland. The company uses a special process invented by its president, B. Borzykowski, and will specialize in the production of the finer sizes.

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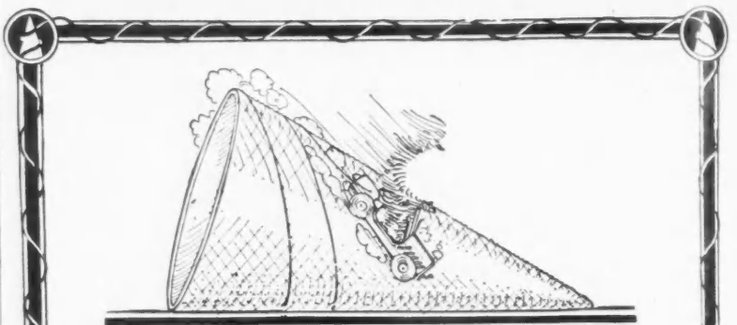

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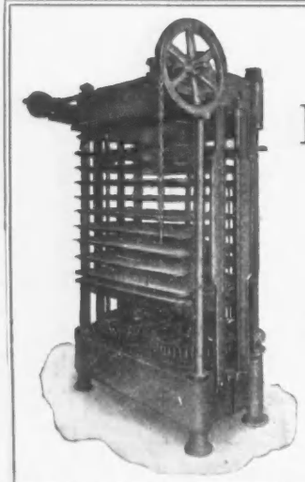

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Brushes (Dabbing) Roll Covers, Worsted and Jute
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Get Repeat Orders by Using

Crane Spring and Latch Needle Knitting Machinery

SOME CRANE FEATURES

Patent removable hardened Wing Burr Wheels.
Patent Thread Stop Motion can be fitted to 20 in. and 32 in. frames and are specially adapted for making fine Jersey Cloth and Stockinet.
Our flat machine is adapted for knitting collarettes.

SPRING NEEDLE UNDERWEAR MACHINE WITH AUTOMATIC TAKE-UP

This machine is made in sizes from 13" to 26" in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also built in sizes from 2½" to 32" in diameter for the production of a great variety of fabrics.

Aside from the feeds for plain fabrics, the stockinet, elderdown and astrachan feeds are superior to any on the market.

IMPROVED AUTOMATIC COLORED PLAIN STRIPER

Made in sizes from 7⅝" to 20⅝" inclusive, of any desired gauge; these measurements being back to back of cylinder needles.
The fabrics from this machine are used for bathing suits, theatricals and athletic goods.
These machines are second to none on the market.
The Crawford stop-motion is applied when requested.

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FINANCIAL MARKETS

Little Change in Textile Securities

American Woolen and International Cotton Common Are Only Weak Listed Shares

BOSTON, Aug. 1.—American Woolen and International Cotton Mills common stocks are the only listed shares that suffered from the further general slump in listed securities, both showing a net decline for the week of 3 points. All of the other listed shares and most of the high-grade unlisted textile stocks are practically unchanged in share value and have been as dull as at any previous period this summer. Amoskeag common has fluctuated within a range of 76 to 78 but it is a notable fact that every recent slump below the 78 basis has developed a sufficiently active demand to maintain average values close to the latter figure. Amoskeag preferred remains unchanged at 78. Pacific has fluctuated within a range of 88½ to 89½, closing today at 89. American Woolen preferred is the only listed stock that has scored an advance during the week and this is only ½ point to the basis of 101½.

Maverick Mills Increased Earnings

The Maverick Mills, cotton goods, E. Boston, Mass., reports sales for the half year ended June 30, of $1,042,088, and gross profits of $205,236. After general selling expenses, miscellaneous charges and crediting of other income, there was a balance available for bond interest and depreciation of $170,552. No dividends have been paid on the common stock since January, 1921, and it is probable that the management will build up its working capital before resuming such dividends.

Sharp Mfg. Co.'s Wise Action

For some time it has been regarded as inevitable by certain leading manufacturers and merchants that some of the New England combed yarn mills, and particularly those that had been expanded to meet demand for tire yarn and cords, would either have to sell part of their machinery, move it South, or install sufficient looms to take care of a portion of their products. The loss of tire cord business to southern competitors and to fabric mills that spin their own yarn was the most serious blow suffered by such spinners, but expansion for the mercerizing business South, increasing competition of artificial silk and comparatively limited demand from knitters for combed yarns of high quality are also important factors that have tended to restrict the outlet for New England combed yarns. Several New Bedford combed yarn mills have been seriously considering the installation of looms, and so have several spinners in the Gastonia, N. C., district, but it remained for the Sharp Mfg. Co., New Bedford, to take the first definite step in this direction. At a meeting of the board of directors this week it was decided to install immediately 1,000 Draper automatic 44-inch dobby looms, driven by individual electric motors, on the top floor of their No. 2 mill. This will give the company an ideal weave shed, as the top floor has a saw-tooth roof and is served by escalators. These looms will take care of about half the yarn products of the No. 2 mill, and only the machinery on the top floor and a portion of another floor will have to be moved to make room for the new equipment. Unless there is an early radical improvement in the yarn market it is quite possible that another 1,000 looms will be installed in this mill thus taking care of practically all of its yarn product. Medium and fine count, plain and fancy cloths will be produced and will be sold through Catlin & Co., selling agents for the Sharp yarns. No. 1 mill with its 120,000 spindles on medium and fine count combed yarns is being operated fully as has been the case for a long period, and since the Sharp is first to make this important change it should be the first to profit thereby. Although it is understood that the company more than earned its dividends during the last quarter, the directors have voted to pass the quarterly dividend on the common stock in order to have ample working capital to cover the cost of the proposed changes.

Boston Stock Auctions

The following sales were made of textile shares at today's auctions:

Shares.	Mill.	Par	Price.	Chge.
15	Nashua, pfd	100	99¼	+ ¼
28	American Mfg., pfd	100	80⅝	+1⅝
43	Total.			

Cash Dividends

Mill.	Rate.	Payable.	Record.
Roxbury Carpet Co., pfd	1¾ %	Qtly. Aug. 1	July 30
Continental Mills.	4%	S. A. Aug. 10	July 30
Renfrew Mfg. Co. Com.	1¼ %	Qtly. Aug. 1	July 31

Fall River Stocks Inactive

Treasurers Try to Improve Conditions—Bid Prices Are Lower

FALL RIVER, MASS.—For the third successive week little more than 50% of the textile machinery is in operation and from present indications even heavier curtailment will be adopted during August. Though the break in cotton is expected to benefit the mills, inquiry for goods at any price is still sadly lacking.

Judging from the action already taken by the mills that have held their dividend meetings for the present quarter, dividend rates will continue the same as for the preceding quarter with possibly two exceptions, but the great majority will have to pay their dividends from surplus rather than from earnings.

Some of the treasurers have announced themselves as in favor of consolidating different groups of mills while others have gone on record as favoring a reduction in wages as the only possible way of continuing operation under the present depression. No definite step has been taken toward carrying out either of the above propositions but they are both being seriously considered.

The mill stock market has shown little or no activity for over two months with only an occasional sale of small blocks though quotations for some stocks showed a drop of 5 points during July. The asking price for Barnard has been dropped from 115 to 110 with no takers. Charlton shows an even larger drop, having gone from 132 to 125 and the bid price of Flint has been dropped from 155 to 140.

King Philip bid is now 165 as against 170 on July 1, and Sagamore bids have gone down to 270 from 275. The latter stock sold around 300 less than two months ago. Seaconnet can be obtained as low as 35 per share, 5 points below the asking price at the opening of the month. Union shows a drop in bid price from 155 to 150 and Wampanoag bid has dropped from 97 to 90 within three weeks.

New England Textile Stocks

Quotations based upon last sales at Boston public auction and Boston Stock Exchange.

	Latest Sales.	Previous Sales.
American Woolen, pfd.	101½	101
Amoskeag	78	80
Androscoggin	**160**	**165**
Appleton	**720**	**740**
Arlington	**100⅛**	**112**
Bates	**254**	**243**
Bigelow-Hartford, pfd.	**119¼**	**114½**
Boott	**135⅛**	..
Edwards	**115**	**110**
Esmond, pfd.	98½	101
Everett	**180**	**190⅛**
Farr Alpaca	188¼	188⅛
Great Falls	**50**	**71**
Hamilton Woolen	**95⅝**	**95⅝**
Hamilton Mfg.	67	61¼
Hill	**150⅞**	**149**
Int. Cotton, pfd.	54	57
Ipswich, com.	**41⅛**	**48⅛**
Lawrence	**82**	**104**
Ludlow Associates	**145**	**146**
Lyman	**166½**	**170**
Massachusetts	**151⅛**	**152⅞**
Merrimack	**99⅝**	**107⅞**
Nashua, com.	**74½**	**71½**
Newmarket	**140**	**135**
Pacific	89	90
Plymouth Cordage	108¼	103½
Naumkeag	**268**	**270⅛**
Tremont & Suffolk	**139½**	**155⅛**
York	**125½**	**125**

Miscellaneous Shares

Reported by M. H. Wildes & Co., Inc., Boston, Mass.

	Bid	Asked
Arlington Mills	101	104
Bates Mfg. Co.	230	240
Bigelow-Hartford, com.	140	145
Brookside Mills	170	180
Columbus Mfg. Co.	125	..
Dwight Mfg. Co.	101	104
Edwards Mfg. Co.	100	105
Everett Mills	160	170
Farr Alpaca Co.	190	..
Gluck Mills	125	130
Great Falls Mfg. Co.	50	55
Hamilton Mfg. Co.	64	66
Hamilton Woolen Co.	93	96
Lancaster Mills, com.	130	..
Lancaster Mills, pfd.	103	106
Lanett Cotton Mills	135	..
Lawrence Mfg. Co.	87	90
Lowell Bleachery	126	130
Ludlow Mfg. Associates	143	146
Lyman Mills	172	175
Massachusetts Cotton Mills	146	150
Merrimack Mfg. Co., com.	98	102
Merrimack Mfg. Co., pfd.	80	82
Nashua Mfg. Co., com.	74	..
Nashua Mfg. Co., pfd.	98	100
Naumkeag Steam Cotton Co.	275	285
Pepperell Mfg. Co.	139	145
Plymouth Cordage Co.	105	107
Tremont & Suffolk Mills	125	130
Waltham B. & D. Works	125	130
Warwick Mills	..	100
West Point Mfg. Co.	123	..
York Mfg. Co.	119	..

New Bedford Quotations

Quotations furnished by Sanford & Kelley.

	Bid.	Asked.
Acushnet Mills	**130**	**140**
Beacon Mfg. Co., pfd.	100	..
Booth Mfg. Co., com.	180	190
Booth Mfg. Co. pfd.	115	..
Bristol Mfg. Co.	..	200
Butler Mfg. Co.	142	147
City Mfg. Co.	..	145
Dartmouth Mfg., com.	**155**	**160**
Dartmouth Mfg., pfd.	93	..
Fairhaven Mills, pfd.	..	92
Fairhaven Mills, com.	..	**100**
Gosnold Mfg. Co., com.	..	137½
Gosnold Mfg. Co., pfd.	**94**	..
Grinnell Mfg. Co.	140	..
Hathaway Mfg. Co.	**150**	..
Holmes Mfg. Co., com.	..	290
Holmes Mfg. Co., pfd.	..	..
Kilburn Mills	160	..
Manomet Mills	76	80
Nashawena Mills	130	135
Neild Mills	240	..
N. B. Cotton Mills	105	..
N. B. Cotton Mills, pfd.	97½	..
Nonquitt Spinning Co.	..	85
Pierce Mill	**485**	..
Potomska Mills	125	132½
Quissett Mills, com.	..	220
Quissett Mills, pfd.	100	..
Sharp Mfg. Co., com.	65	70
Sharp Mfg. Co., pfd.	80	85
Soule Mills	**200**	..
Taber Mills	..	**120**
Wamsutta Mills	**100**	..
Whitman Mills	150	..

Fall River Mill Stocks

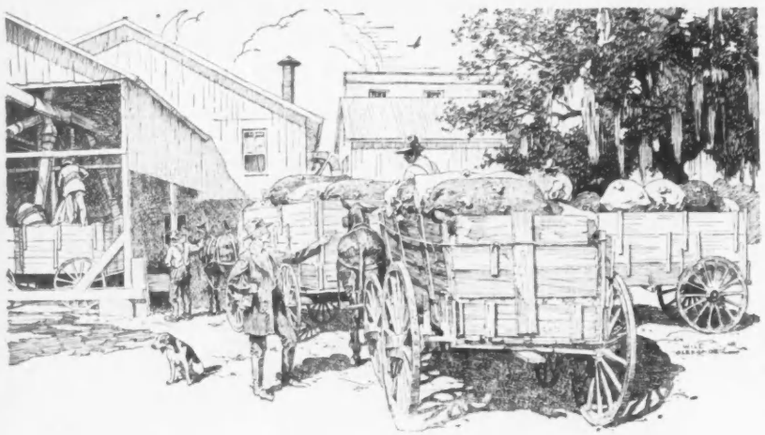
Quotations furnished by G. M. Haffards & Co.

	Bid.	Asked.
American Linen Co.	..	78
Arkwright Mills	..	65
Barnard Mfg. Co.	..	**110**
Bourne Mills	..	..
Border City Mfg. Co.	..	105
Chace Mills	**90**	..
Charlton Mills	120	125
Cornell Mills	..	165
Davol Mills	105	..
Davis Mills	..	105
Flint Mills	140	..
Granite Mills	100	106½
King Philip Mills	165	172
Laurel Lake Mills, com.	..	45
Laurel Lake Mills, pfd.	..	..
Lincoln Mfg. Co.	100	..
Mechanics Mills	..	..
Merchants Mfg. Co.	135	..
Narragansett Mills	125	..
Osborn Mills	95	105
Parker Mills, com.	..	**48**
Parker Mills, pfd.	..	100
Pilgrim Mills, Com.	125	..
Pilgrim Mills, pfd.	100	..
Pocasset Mfg. Co.	60	..
Sagamore Mfg. Co.	270	..
Seaconnet Mills	..	35
Shove Mills	**80**	..
Stafford Mills	..	**105**
Stevens Mfg. Co.	145	..
Tecumseh Mills	..	145
Union Cotton Mfg. Co.	150	..
Wampanoag Mills	90	..
Weetamoe Mills	..	..

N. Carolina Textile Stocks

(Taken from list of Southern Mill Stocks quoted by R. S. Dickson & Co., Gastonia, N. C., and Greenville, S. C.)

	Bid	Asked
Acme Spinning Co.	104	111
Am. Yarn & Processing Co.	104	116
Am. Yarn & Process'g Co., pfd.	104	107
Arlington Cotton Mills	120	126
Arrow Mills	105	111
Clara Mfg. Co.	95	100
Cabarrus Cotton Mills	135	..
Cabarrus Cotton Mills, pfd.	**106**	..
Cannon Mfg. Co. (par $10)	16	16½
Chadwick-Hoskins Co. (par $25)	19	23
Chadwick-Hoskins Co., pfd.	105	107
Clover Mills	99	..
Climax Spinning Co.	154	171
Crescent Spinning Co.	105	111
Dixon Mills	114	120
Durham Hosiery, pfd.	65	71
Dunham Hosiery, "B"	12	14
Eastern Mfg. Co.	..	100
Efird Mfg. Co.	145	155
Erwin Cotton Mills Co.	130	..
Erwin Cotton Mills Co., pfd.	103	106
Flint Mfg. Co.	149	161
Gibson Mfg. Co.	124	..
Globe Yarn Mills (N. C.)	59	66
Gray Mfg. Co.	125	..
Hanes, P. H. Knitting Co.	12	13
Hanes, P. H. Knitting Co., pfd.	104	107



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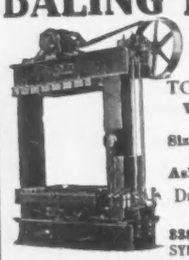

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Henrietta, 7% pfd	100	100
Jennings Cotton Mills	255	..
Linford Mills	94	96
Lola Mfg. Co.	100	110
Locke Cotton Mills Co.	165	..
Myers Mill	65	71
National Yarn Mill	145	166
Parkdale Mills	109	118
Perfection Spinning Co.	94	99
Priscilla Spinning Co.	50	58
Ranlo Mfg. Co.	124	131
Rex Spinning Co.	..	71
Rex Spinning Co., pfd.	..	85
Rowan Cotton Mills Co.	94	97
Roanoke Mills, 1st pfd.	102	..
Roanoke Mills, 2d pfd.	99	101
Rosemary, pfd.	98	100
Rhyne-Houser Mfg. Co.	92	97
Seminole Cotton Mills Co.	100	106
Sterling Spinning Co.	109	121
Victory Yarn Mills Co.	89	95
Victory 8 per cent. pfd.	102	103
Winget Yarn Mills Co.	74	81
Wiscasset Mills Co.	165	..

Southern Cotton Mill Stocks

Quotations furnished by A. M. Law & Co., Inc., Spartanburg, S. C.

	Bid.	Asked
Abbeville Cotton Mills	110	..
American Spinning Co.	..	285
Anderson Cotton Mills	110	115
Aragon Mills	150	..
Arcade Cotton Mills	98	..
Arcadia Mills	300	320
Arkwright Mills	130	..
Augusta Factory, Ga.	70	..
Avondale Mills, Ala.	575	700
Banna Mills	..	51
Beaumont Mfg. Co.	260	..
Belton Cotton Mills	65	68
Belton Cotton Mills, pfd.	93	96
Bibb Mfg. Co.	175	180
Brandon Mills, pfd.	96	99
Brogon Mills	110	112
Calhoun Mills	135	141
Chesnee Mills	..	170
Chiquola Mills	240	..
Chiquola Mills, pfd.	89	91
Clifton Mfg. Co.	140	142
Clinton Cotton Mills	200	..
Columbus Mfg. Co., Ga.	130	140
Cowpens Mills	..	89
D E. Converse Co.	..	140
Dallas Mfg. Co., Ala.	165	200
Darlington Mfg. Co.	93	97
Drayton Mills	85	92
Duncan Mills	131	140
Duncan Mills, pfd.	100	100
Eagle & Phenix Mills, Ga.	155	..
Enterprise Mfg. Co., Ga.	90	95
Gaffney Mfg. Co.	..	99
Gainesville Cotton Mills, Ga.	150	160
Glenwood Mills	139	..
Gluck Mills	127	131
Graniteville Mfg. Co.	170	..
Greenwood Cotton Mills	220	..
Grendel Mills	150	..
Grendel Mills, pfd.	48	50
Hamrick Mills	..	160
Hartsville Cotton Mills	150	..
Inman Mills	150	..
Inman Mills, pfd.	101	..
Jackson Mills	225	235
Judson Mills	164	166
Judson Mills, pfd.	100	102
King, John P., Mfg. Co., Ga.	165	170
Lancaster Cotton Mills	150	..
Laurens Cotton Mills	125	140
Limestone Cotton Mills	..	160
Marion Mfg. Co., N. C.	120	130
Marlboro Mills	88	90
Mills Mfg. Co.	255	..
Mollohon Mfg. Co.	125	135
Monarch Mills	..	151
Musgrove Cotton Mills	88	91
Newberry Cotton Mills	130	133
Ninety-Six Mills	150	..
Norris Cotton Mills	96½	100
Oakland Cotton Mills	135	140
Orr Cotton Mills	111	113
Orr Cotton Mills, pfd.	97	98
Pacolet Mfg. Co.	..	185
Pacolet Mfg. Co., pfd.	100	..
Panola Cot. Mills, Class A, pfd.	99	..
Panola Cot. Mills, Class B, pfd.	93	97
Pelham Mills	..	42
Pelzer Mfg. Co.	149	151
Pickens Cotton Mills	125	130
Piedmont Mfg. Co.	151	..
Poe, F. W., Mfg. Co.	128	131
Poinsett Mills	112	114
Riverside Mills (par $12.50)	10	11
Saxon Mills	111	113
Sibley Mfg. Co., Ga.	..	70
Spartan Mills	155	160
Toxaway Mills (par $25)	34	35
Tucapau Mills	180	200
Union-Buffalo Mills	79	81
Union-Buffalo, 1st pfd.	93½	94½
Union-Buffalo Mills, 2d pfd.	54	55
Victor-Monaghan Co.	147	148½
Victor-Monaghan Co., pfd.	115	118
Ware Shoals Mfg. Co.	..	200
Watts Mills	60	..
Watts Mills, 1st pfd.	101	..
Watts Mills, 2d pfd.	135	..
Whitney Mfg. Co.	108	110
Williamston Mills	171	..
Woodruff Cotton Mills	170	175
Woodside Cotton Mills	129	131
Woodside Cotton Mills, pfd.	91	93

AMSTERDAM, N. Y. At a meeting of the stockholders of the Chuctanunda Dyeing & Dressing Co., held last week, it was voted to dissolve said corporation. The concern discontinued operations early this year.

Textile-Finishing Outing

Company Holds Successful Event at Warwick Club

The Textile-Finishing Machinery Co., of Providence, R. I., held a most successful outing at the Warwick Club last Saturday. The entire plant closed at 11 o'clock and over 250 attended. It was the fifth annual outing and the second to which the ladies were invited and all agreed that this year's was the best yet. Starting with a luncheon there was something doing every minute until E. A. Rusden, president, closed with a few remarks in which he reviewed the history of the company.

There was a baseball game in which the single men defeated their married rivals by a score of 3 to 1, and then sports for men, women and girls. A barrel race, 100-yard dash, pipe and pole races for men and bean bag, balloon and shoe races for the ladies were successfully run off before the rain put a stop to outdoor activity. The Eureka Orchestra, composed of members of the organization, rendered ragtime jazz for dancing and also accompanied a mixed quartet.

Then a real Rhode Island shore dinner and in the evening professional talent was brought in and a character comedian and sleight-of-hand artist kept everyone happy until the party was brought to a close.

One of the reasons for the success of the outing was the careful planning by the several committees, which include a large number from both the office and the shop.

Lancashire Dividends

(From our Regular Correspondent)

MANCHESTER, ENG. — Nine Lancashire cotton spinning companies have recently declared dividends absorbing £29,928, but 16 others have not made a return to shareholders. Altogether the 25 firms have a total paid-up ordinary share capital of £2,690,722 and 2,242,276 spindles. The reports of 17 companies relate to the quarter ended May, the average payment being 3.41% per annum, compared with 4.19 in February, 5.58 in November, 6.81 in August and 7.03 in May, 1922. An average dividend for the half year of 3.12% per annum has been paid by 8 concerns, against 3.75 and 4.37 in November and May, 1922, respectively.

Reasons for Closing Plant

The Glasgo, Conn., plant of the American Thread Co. has been permanently shut down, as previously reported in these columns. The company states that operations have been discontinued at this small, isolated plant because of extreme competition from southern mills and trouble experienced in maintaining a full quota of operatives. Operatives at the Glasgo plant have been transferred to other mills of the company. It has been operating on coarse count carded yarns.

COTTON YARN MARKETS

QUOTATIONS

(Corrected at close of business Thursday)

Carded

(Average Quality)

Single Skeins—Warp Twist

4s to 8s	34	—35	20s	39	—40
10s	35	—36	24s	—	—42
12s	36	—37	26s	—	—43
14s	—	—38	30s	46	—47
16s	—	—39	40s	56	—57

Two-Ply Skeins and Tubes

8s-2	35	—36	24s-2	42	—43
10s-2	36	—37	26s-2	43	—44
12s-2	37	—38	30s-2	45	—46
14s-2	—	—38	36s-2	53	—54
16s-2	38½	—39	40s-2	55	—56
20s-2	39	—40	40s-2 high	60	—61

Single Warps

10s	—	—36½	24s	—	—42
12s	—	—37	26s	—	—44
14s	—	—38	30s	—	—47
16s	—	—39	40s	—	—56
20s	—	—40			

Two-Ply Warps

8s-2	35	—36	24s-2	42	—43
10s-2	36	—37	26s-2	43	—44
12s-2	37	—38	30s-2	45	—46
14s-2	—	—38	40s-2 ord.	55	—56
16s-2	38½	—39	40s-2 high	61	—..
20s-2	39	—40	50s-2	67	—68

8s-3 and 4-ply skeins and tubes; tinged 34-35c.; white, 36c.; 10s-2 and 12s-2 slack twist, 38-39c.

Hosiery Cones

(Frame Spun)

8s	—	—35	22s	38	—39
10s	35	—36	22s Jac Sil	40	—41
12s	—	—36½	24s	39	—40
14s	—	—37	26s	40	—41
16s	—	—37½	30s tyg in.	—	—39
18s	—	—38	30s ex-qual.	44	—45
20s	38	38½	40s	—	—54

Combed Peeler

(Average Quality)

Warps, Skeins and Cones

20s-2	52	—53	50s-2	70	— 72½
30s-2	58	—59	60s-2	75	— 80
36s-2	62	—64	70s-2	88	— 90
40s-2	64	—65	80s-2	1 00	—1 02½

Singles

32s	46	—47	30s	58	— 59
34s	47	—48	36s	62	— 63
36s	48	—49	40s	66	— 68
38s	49	—50	50s	70	— 72½
20s	50	—51	60s	78	— 80
24s	53	—54	70s	88	— 90
28s	55	—56	80s	1 00	—1 07½

Mercerized Cones

(Combed, Ungassed)

24s-2	74	—79	50s-2	88	—96
30s-2	77	—83	60s-2	96	—1 07
36s-2	79	—86	70s-2	1 11	—1 20
40s-2	79	—86	80s-2	1 20	—1 37
45s-2	84	—89			

Eastern Peelers

Single Cones

	Carded		Combed	
30s	39½	—40	46	—47
32s	39	—40	47	—48
34s	40	—41	48	—50
36s	40½	—41	49	—51
38s	41	—42	50	—52
40s	42	—43	51	—53
44s	44	—45	53	—55
50s	45	—46	55	—57
56s	47	—49	57	—59
36s	53	—55	63	—65
40s	60	—62	70	—75
50s		—..	80	—85
60s		—..	90	—95

Combed Cones, Warps and Tubes

20s-2	54	—58	50s-2	75	— 80
28s-2	58	—62	60s-2	85	— 95
30s-2	60	—65	70s-2	95	—1 05
36s-2	65	—70	80s-2	1 10	—1 20
40s-2	70	—75			

Government Report Checks Falling Prices

Halt Called on Decline, at Least Temporarily—Buyers Still Hold Off

Declining prices on all counts of cotton yarns were checked, at least temporarily, by the unexpectedly low Government crop condition report of 67.2 on Wednesday. This report, with an indicated yield of 11,500,000 bales, in round numbers, came as a surprise to the cotton, yarn and goods markets, which had expected a condition report of 70 or higher.

Dealers in New York immediately withdrew some of the low prices that were being quoted, and every effort will apparently be made to put prices up in conformity with the bullish Bureau. Sufficient time has not elapsed as this is written on Thursday, however, to allow for intelligent comment on the results of these efforts.

No Rush Following Report

No inclination to rush into the yarn market was displayed by buyers immediately following the report. Enough business had not been put through at the time of writing to give much of an indication of market prices, and it seems likely that yarn consumers as a class will continue to hold off for the time being. The trade generally is accepting the Government report with several grains of salt, confidence in Government figures has been seriously shaken by the mistakes of recent years.

The report certainly disposes of all possibility of cotton as low as 15c., and to many it means that as low a basis as 18c. is not likely. August remains the crop-making month, however, and so far as can be judged at the moment yarn consumers seem likely to continue their fill-in buying policy until a more definite idea of the new crop basis may be obtained.

Prices continued easing off in the early part of the week, and new lows were reached on a number of counts. It is difficult to quote market levels so soon after the Government report, and prices in the adjoining columns must be accepted as an approximation of what dealers are willing to accept with definite business in sight. A healthy expected result of the crop report is that it should stop short selling, particularly on the part of Philadelphia dealers, which is blamed for much of the recent weakness.

200,000 Pound Sale

Knitters generally have stayed out of the falling market. At least a few of the underwear mills which opened spring lines several weeks ago have done a satisfactory business, and dealers say that none of them has covered on yarn. The most important recent

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Sole Representative
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BRADLEY MFG. CO.
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Whites, Stock Dyed and Heathers
All of COLUMBUS, GA.
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N. Y. Office: 268 Fourth Ave. Southern Office: Lowell, N. C.
Spinners to Consumers
Carded and Combed Peeler single and ply Cones. Skeins, Warps, Tubes
For Knitting and Weaving Trade

JAMES E. MITCHELL COMPANY
Cotton Yarns
Philadelphia Boston

FORREST BROTHERS
Forrest Bldg., 119 S. Fourth St., Phila., Pa.
Superior Quality Knitting Yarns
Sole Representatives
Bladenboro Cotton Mills—Vass Cotton Mills
8s to 30s Extra Carded

T. J. PORTER & SONS
Direct Representatives of large Spinners of the finest classes of
Cotton, Woolen, Worsted, Mohair and Linen Yarns
268 Fourth Avenue, New York
119 South Fourth Street, Philadelphia
19 College Street, Providence

ABERFOYLE MANUFACTURING COMPANY

MERCERIZED YARNS

MAIN OFFICE
EMPIRE BUILDING
PHILADELPHIA

ADAMS-FRANKLIN BUILDING
CHICAGO

WESTAWAY BUILDING
HAMILTON, CANADA

MILLS
CHESTER, PA.

Cotton Yarn Markets—Continued

development in weaving counts was the sale of 185,000-200,000 pounds of insulating yarns, 20-2, 30-2 and 40-2, skeins and tubes, to a large electrical company. It is rumored that the 20s were obtained at 36c. and the 30s at 43c., but this is not subject to confirmation. Dealers acknowledge that the action of this one company, a leader in its field, has not been followed in this instance by other insulators.

Yarns Recede Further

Weakness in Cotton Makes Buyers Cautious on Commitments

PHILADELPHIA.—In sympathy with the raw material market, cotton yarns receded 1 to 2c. a pound on carded, and to a larger extent on combed qualities early in the week. Several good sized orders have been placed recently at figures considered impossible by the majority of dealers. Generally speaking, manufacturers continue to buy in amounts averaging 5,000 lbs. from week to week, and refuse to place contracts under uncertain conditions prevailing in the cotton markets. June business received by yarn dealers in the Philadelphia market, when totaled, proved to be the best month of the present year in volume; this is qualified by the fact earlier months were not up to the level of previous years in most cases. A number of inquiries for quotations are received daily by dealers, and after the manufacturer covers the trade thoroughly, he places orders at a figure probably 5c. lower than the highest quotation he received. Many southern spinners, both of carded and combed yarns, are closing for one or two weeks to give their employes a vacation, or in order to go over their machinery; others are running only five days a week short time. Stocks of yarn in manufacturers' hands in this territory are comparatively low.

Buyers Content to Wait

Many factors do not look for any change in these conditions until September, when fairly accurate information will be given on the amount of cotton available during the coming year. At this time, due to variable weather conditions and conflicting reports on the new crop, cotton prices have been unsteady, helped to a considerable degree by the diminishing rate of consumption and export, which has left a carry-over instead of a shortage. In addition to these adverse factors, the yarn market is now passing through the regular seasonal dull period; together these factors have demoralized buyers of all varieties of cotton products. No one knows whether conditions will or will not be favorable during the remaining months before the crop is picked, and upon this will depend the size of the crop and its price.

Combed Yarns Quiet

Combed yarns are moving slowly in small amounts for quick shipment, at prices 2 to 5c. lower than noted a week ago. Comparing prices of these yarns at present when spot cotton is 22½c., with prices a year ago when spot cotton was 21½c., shows 30s-2 skeins were then selling for 62c. while the current price is 58c.; on 60s-2 July, 1922, quotation was $1.00, while at present dealers are asking 75c. Many counts of single combed peeler are now selling at higher prices than obtainable on two ply yarns. Mercerized yarns are inactive with no sales of importance noted during the last week. Prices are 2 to 3c. lower on this class of yarn.

Business at Standstill

Spinners, Dealers and Users Await More Stable Cotton Prices

BOSTON—The decline in cotton prices up to Tuesday had been so unexpectedly radical that it has taken the heart out of buyers who had been operating on the decline and has left spinners and dealers with their backs against the wall and with business practically at a standstill. The ridiculously low bids for yarns proffered by certain buyers, and the almost equally low prices made by a few short sellers have tended to confirm spinners and dealers in a waiting policy.

The market is temporarily unquotable, and it is almost impossible to advance any specific information regarding prices. It seems to be the consensus of opinion, however, that a minimum basis of the market for spot and forward delivery on a good grade of yarn is not less than 38c. for 20s-2 warps, 36c. for 10s frame-spun cones, and 75c. for a southern 60s-2 combed peeler mercerizing warp. Eastern yarns are quoted nominally on a basis of 39 to 40c. for 10s carded peeler cones, and a minimum of about 50c. for 18s combed peeler cones. Minimum quotation reported on an eastern 60s-2 combed peeler mercerizing warp is 85c., although the majority of spinners want 90c. and above.

It is generally agreed that there must be a sustained advance in cotton prices, backed by sufficient information regarding the growing crop to indicate that minimum prices have been seen for several months, before any permanent improvement in demand for and prices of yarns can be expected. The statistical position of staple varieties of yarns and cloths is scarcely less strong than that of raw cotton, and in the case of the former it is being steadily improved by increasing curtailment of production; if continued this will make a strong basis for an advance and for confident buying as soon as stable prices of cotton are assured.

Yarn Trade Held Up

Decline in Cotton Early in Week Checked Mid-West Trade

CHICAGO.—The continued decline in raw cotton has held up purchases of cotton yarns. Exceptional bargains

J. B. JAMIESON COMPANY
COTTON YARNS
77 Summer St.
Boston, Mass.

TILLINGHAST-STILES CO.
JESSE P. EDDY, Treas.
Cotton and Worsted Yarns
PROVIDENCE, R. I.
Room 922, Webster Bldg. 327 So. La Salle St., Chicago

ORSWELL MILLS
Fitchburg, Mass.
COTTON YARNS
All Qualities

GATE CITY COTTON MILLS
Manufacturers of Superior Quality
WHITE HOSIERY YARN on CONES
We sell direct to Knitters and guarantee satisfaction
337 Trust Company of Georgia Building, ATLANTA, GA.

COTTON HAROLD W. O'LEARY COMPANY YARNS
52 Chauncy Street, Boston, Mass.

The John F. Trainor Company
Cotton Yarns
Domestic—Export
320 Broadway New York

INDUSTRIAL YARN CORPORATION
Karded and Combed Cotton Yarns
88 Leonard Street All Descriptions New York

JOHN F. STREET & CO.
COTTON YARNS
201 Industrial Trust Bldg. PROVIDENCE, R. I.
CHICAGO PHILADELPHIA NEW YORK

EWING-THOMAS CONVERTING CO.
Specialists in Mercerized Yarns CHESTER, PA.
Warp Mercerizing for the Trade
Gassed—Natural—Bleached—Colors
DOUBLE MERCERIZED SPECIAL PROCESS

H. S. RICH & CO.
COTTON YARNS
150-152 SOUTH WATER ST
PROVIDENCE, R. I.

SOUTHERN MERCERIZING CO.

TRYON — **N. CAROLINA**

PHILADELPHIA OFFICE
Room 1048, Drexel Building
W. A. FORSYTH, Manager

CHATTANOOGA, TENN., OFFICE
911 James Building
Southern Yarn Co., Representatives

YARNS

MERCERIZED, BLEACHED, DYED, GASSED

Our Specialty: SINGLE Mercerized Yarn for Splicing and Plaiting

Single Mercerized Yarns up to 100/1—Also Two Ply Mercerized 100/s to 140/s

Wire or Write Us for Prices and Samples

Southern Mercerizing Co. Tryon, North Carolina

PAULSON, LINKROUM & CO.

INC.

COTTON YARNS

WEAVING AND KNITTING

Sole Agents
STANDARD COTTON MILLS
CEDARTOWN, GA.

Highest Quality Mule Spun Yarns
6s to 24s

ENSIGN COTTON MILLS
FORSYTH, GA.

Coarse Counts Quality Yarns
4s to 16s, Single and Ply

52 LEONARD ST., NEW YORK

PHILADELPHIA
PROVIDENCE

CHICAGO
CHARLOTTE, N. C.

Cotton
Wool
Worsted
Merino
Silk Mixtures
Heather Mixtures

YARNS

CARVER-BEAVER YARN CO., Inc.

366 BROADWAY, NEW YORK, N. Y.

CATLIN & COMPANY

COTTON YARNS

SOLE AGENTS FOR

LAWTON SPINNING COMPANY
HAMILTON MFG. COMPANY
TREMONT and SUFFOLK MILLS
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and other mills furnishing full range of all numbers

NEW YORK BOSTON PHILADELPHIA CHICAGO

GEORGE H. WARING & CO.

Southern COTTON YARNS *Eastern*

FALL RIVER, MASS.

O. S. HAWES & BRO.

FALL RIVER, MASS.

COTTON YARNS ALL FORMS AND NUMBERS

STEVENS YARN CO.
INCORPORATED
86-88 Worth St. N. Y. City
COTTON YARNS
Sole Selling Agents
Lily Mill & Power Co.
Shelby, N. C.
Combed 26s to 50s
Mason Cotton Mills Co.
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Combed and Carded 20s to 40s
Tallapoosa Mills
Tallapoosa, Ga.
Carded 10s to 20s
Boston Philadelphia
Providence Charlotte, N. C.

PHILADELPHIA TEXTILE SCHOOL
of the
Pennsylvania Museum and School of Industrial Art
will open its
FORTIETH SEASON
DAY CLASSES—Sept. 19, 1923
EVENING CLASSES—Oct. 8, 1923
Early application for admission is advised, as the number of pupils to be accepted is limited.
Two Diploma Courses are offered in the Day School.
The *REGULAR TEXTILE COURSE*—Three Years. Comprehensive and highly recommended.
The *CHEMISTRY, DYEING AND PRINTING COURSE*—Three Years. Includes all textile fibres.
Two Year, abridged, Certificate Day Courses are also offered in Cottons, Woolens and Worsteds, Silks, Jacquard Design and Dyeing, admission to which may be had by substituting practical experience for a portion of the college entrance units required in the Diploma Courses.
Circulars giving details of the Day and Evening Schools may be had by applying to
E. W. FRANCE, *Director*,
Broad and Pine Streets, Phila., Pa.

PHILA. COTTON YARN CO.
COMBED CARDED YARNS KNITTING WEAVING
135 S. 2nd St., Philadelphia

COTTON YARN SHIPMENTS TO PHILADELPHIA, PA.
Shipments consigned to our care are carefully and promptly handled upon arrival by our large fleet of Auto Trucks and Teams with experienced employees. Representatives at all Terminal Stations and Wharves daily. Cartage prices quoted upon inquiry.
PETER CAVANAUGH, Inc.
222 Chestnut St. Philadelphia, Pa.
Freight Forwarders, Transfer Agents and Bonded Draymen
Established 1878

LINEN YARNS, JUTE YARNS
Linen Threads and Harness Twines
Turkey Red Cotton Yarns
FLAX and FLAXNOILS
ANDREWS & COOK
66-72 Leonard St. New York

Cotton Yarn Markets—Ctd.

seem to represent all the trading there was in this district. Here and there a small lot for filling in was placed, usually at a price under the regular market quotations. There are indications, however, that as soon as the market shows signs of being more stable, purchases will be made. A number of manufacturers will be obliged to come into the market for raw material. Many of these knitters state that they believe that both cotton and yarns will decline still further, and that they will be able to place contracts based on 20c. cotton, for middling upland.

Tens single, ordinary carded yarn, hosiery twist, on cones were quoted as low as 37c., for white stock; 20s at 42 to 44c.; 30s at 42 to 46c. Mercerized yarns have not moved in volume worthy of mention, and all prices are nominal.

Calcutta Burlap for U. S.

WASHINGTON, D. C.—Burlap exported to the United States from Calcutta last year totaled 923,858,000 yards. As in previous years the port of New York received the largest amount, receiving 296,043,500 yards, with New Orleans second, receiving 272,737,400 yards. On the Pacific coast, San Francisco received 61,659,200 yards. Of the interior cities Chicago received 40,384,000 yards, followed by Minneapolis, with 34,498,000. Detailed figures for ports of entry are presented herewith as reported to the Department of Commerce by Assistant Trade Commissioner C. B. Spofford, at Calcutta:

	Yards.
New York	296,043,500
New Orleans	272,737,400
Boston	74,051,400
Chicago	40,384,000
Philadelphia	31,302,000
St. Louis	20,690,000
Cleveland	500,000
Minneapolis	34,498,000
Baltimore	7,702,000
San Francisco	61,659,200
Seattle	14,038,400
Portland	12,056,200
Tacoma	130,000
sOther ports	40,984,800

Textile Industry in Alsace

WASHINGTON, D. C.—The foremost industry, and one of the chief sources of wealth in Alsace, is the Textile Industry, according to a report from Vice Consul Leslie E. Woods, received by the Textile Division, Bureau of Foreign and Domestic Commerce. Comparison of the figures obtained by a census in 1922 with those published for the year 1914 will show the extent of the progress made in restoring the industry. In 1922 there were 1,625,000 cotton spindles, 129,000 spindles for sewing thread, and 34,500 looms, and in the woolen industry 536,650 spindles, 132,800 for sewing thread, and 6,500 looms, compared with the 1914 figures of 1,900,000 cotton spindles, and 46,000 looms, and in the woolen industry 568,000 spindles and 10,000 looms.

PHILMONT, N. Y. The Columbia Mesh Knitting Co. was sold at auction recently to Patrick Hoctor at $1,686.14.

CANNON YARNS

Cotton Yarns *of* Quality

Sometimes we lose a big order.

Customer says, to meet competition he can't afford to pay the slight difference for CANNON QUALITY.

But invariably his business returns to us in greater volume than before, which means but one thing:

Cheaper yarn does not necessarily lower the cost of the finished product.

THE CANNON MILLS
INC.
PHILADELPHIA
New York Providence Boston
Reading, Pa. Chicago Amsterdam, N. Y.

THE STANDARD OF VALUE & QUALITY

COTTON PRODUCTS COMPANY

High Grade Warps
for
MERCERIZING

Empire Building -:- Philadelphia, Pa.

James Austin & Son
260 West Broadway, New York
YARNS OF ALL DESCRIPTION
Selling Agents for American Thread Co. Yarns
Insulating Yarns a Specialty

HOME BLEACH & DYE WORKS
Cotton Yarn Dept.
MERCERIZING
BLEACHING
DYEING
WINDING
All Counts from Ball Warps and Skeins

Worsted Yarn Dept.
SKEIN DYEING OF
ALIZARINE COLORS
CHROME-TOPPED COLORS
CHROMATE COLORS
ACID COLORS
For the knitted Outerwear Trade

PAWTUCKET, R. I.

ANYTIME and EVERYTIME
you are in the market for
YARNS
PHONE—WRITE
—WIRE
Yarns for Knitters
CAMERON & PFINGST, INC.
308 Chestnut St. Philadelphia, Pa.
16 So. 4th Street Reading, Pa.

D. H. MAUNEY, *Pres.* PHIL. S. STEEL, *Vice-Pres.* F. W. FELSBURG, *Second Vice-Pres.*
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COTTON YARNS
AN INCORPORATION OF SOUTHERN SPINNERS
FROM PRODUCER DIRECT TO CONSUMER
237 Chestnut Street Philadelphia, Pa.
Eastern Office, 336 Grosvenor Bldg., Providence, R. I.
MILLS DESIRING DIRECT REPRESENTATION AND HAVE THEIR PRODUCT SOLD UNDER THEIR OWN MILL NAME WILL PLEASE COMMUNICATE

MONUMENT MILLS, Housatonic, Mass.
HIGH GRADE COTTON YARNS, White, Colors, Bleached
On Beams, Jack Spools, Cones, Skeins, and Chain Warps
FAST-BLACKS & COLORS { For Woolen Mills a Specialty } WE SELL DIRECT

WM. WHITAKER & SONS
Olney, Philadelphia
COTTON CARDING and CARDED COTTON
Roving, Shuttle Cops, etc.

COTTON MARKETS

Bureau Report 67.2; Cotton Up Two Cents

Attributed to Low Conditions—Texas and Georgia Spinners Skeptical—Texas Needs Rain

The entire cotton trade was thrown into a state of confusion by the Government's report which was made public on Wednesday. All previous views as to the crop position, which had been based on the average of private estimates, making the condition 70, have had to be revised. According to the Agricultural Department, the condition of the crop as of July 25 was 67.2, which represented a decline of 2.7 points from the previous month and was lower than any of the guesses by Cotton Exchange members or any of the estimates by private authorities, the lowest of which was 68.6 by the American Cotton Association. The Government's crop indication was 11,516,000 bales, compared with 11,412,000 bales a month ago. The effects upon the market of such a totally unexpected condition figure was little short of sensational and caused an almost perpendicular advance of from $8.00 to $10.00 a bale.

In explaining its abnormally low figure, the bureau pointed to damage from dry weather in Texas, the condition of which it gave as only 71, while in Georgia with a condition of only 48, excessive rains and boll weevil were blamed. In many quarters here and in Liverpool, especially among the cotton trade at Manchester, the report was discredited. It was felt that the Government had underestimated actual conditions and that there was no reason for becoming alarmed over crop conditions or the possibility of the yield this year falling below 12,000,000 bales. Nevertheless, such opinions were in the minority, and the actions of the market both immediately following the report, and on Thursday, indicated that the trade as a whole was inclined to respect the figures and conclude that they more nearly represented conditions than did the private reports, although it was admitted that only in rare instances has there been such a wide discrepancy between the average of the private estimates and the Government report figures. Possibly sentiment was more ready to accept the official statement because of the fact that conditions in all parts of the belt since July 25 have been generally unfavorable.

Some disappointment was expressed over the failure of cotton goods markets to show a greater response to the bullish aspects of the Government announcement. There seemed to be no disposition to get excited over the report in goods circles but traders expected that if firm speculative markets continued, there would be a resumption of buying in cloths at probably higher prices. A stiffening of the spot basis in the South was one of the features attending the report, but it must be remembered that the Southwest is handling an increasing movement of the new crop and is likely to be a free seller as in most cases the present level of prices appears to be satisfactory.

Hester's figures on cotton for the year-end made the total commercial crop 11,283,000 bales against 11,653,000 last year and a world's consumption of American cotton for the year of 12,631,000 against 12,829,000 last year. The carryover at the close of the season was 2,573,000 bales, compared with 4,879,000 the prevoius year. The report was considered bullish, but of course was more than overshadowed by the Government report. It was the opinion of cotton traders generally, at the close of the week, that everything will depend on the weather of the next few days.

Opinions as to how long Texas can stand present conditions without serious loss varied considerably. Some despatches said that even now all hope for making over 3,500,000 bales had vanished. Other reports took the view that with good soaking rains inside the next week, it was still possible that a record crop might be produced. Hopes have been expressed all along that Texas would raise 5,000,000 bales this year and thus pull up the expected shortage in the balance of the belt, especially east of the Mississippi, where the weevil is numerous and just now beginning to show up as a serious menace to the crop which has reached a stage where the plant is susceptible to the insect. It now seems probable, however, that this figure will have to be modified,

(Continued on page 163)

COTTON STATISTICAL DATA

FLUCTUATIONS OF FUTURES
Closed /—For week— Closed

Option.	July 25.	High.	Low.	Aug. 1.	Chge.
August	23.10	23.20	20.85	22.80	—.30
September	23.20	23.20	21.15	22.70	—.50
October	22.90	22.90	20.82	22.41	—.49
November	22.80	22.75	21.10	22.36	—.44
December	22.72	22.73	20.68	22.33	—.39
January	22.50	22.55	20.52	22.15	—.35
February	22.57	22.24	20.75	22.15	—.42
March	22.65	22.67	20.70	22.15	—.50
April	22.67	22.27	20.83	22.12	—.55
May	22.70	22.67	20.73	22.10	—.60
June					
July					

SPOT FLUCTUATIONS FOR WEEK
(MIDDLING)

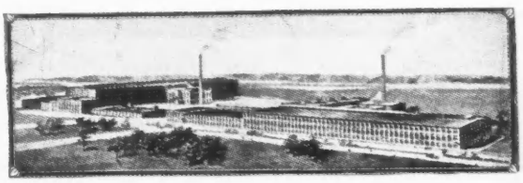
	New York.	New Orleans.	Liverpool.
Friday, July 27	22.80c.	23.00c.	14.42d.
Saturday, July 28	22.45c	22.00c.	Holiday
Monday, July 30	22.50c.	22.00c.	13.43d.
Tuesday, July 31	22.45c.	22.00c.	13.57d.
Wednesday, Aug. 1	23.65c.	22.00c.	13.25d.
Thursday, Aug. 2	23.00c.	22.75c.	13.86d.

SPOT FLUCTUATIONS AND STOCKS

	Spot Prices.	This Week.	Last Year.
Galveston	23.15	18,671	65,116
New Orleans	22.75	47,870	77,229
Mobile	22.50	849	2,683
Savannah	23.00	12,828	44,048
Charleston		23,922	53,232
Wilmington		5,197	12,384
Norfolk	22.63	20,684	34,617
Baltimore	22.00	1,150	1,692
Augusta	22.75	13,501	55,739
Memphis	22.75	56,950	69,522
St. Louis	22.50	5,600	13,694
Houston	22.90	24,699	37,897
Little Rock	23.50	12,972	16,766

Nonquitt Spinning Company

Nonquitt Spinning Co.



Fine Combed Yarns

Goods of highest character are produced only from yarns of exacting standards and specially developed for a purpose. The knitter who knows obtains results justifying judgment in adopting Nonquitt yarns.

WILLIAM WHITMAN COMPANY, INC.
Agents
BOSTON NEW YORK PHILADELPHIA CHICAGO
AMSTERDAM, N. Y. CHARLOTTE, N. C.

Mercerized Yarns

C. P. Mercerized Cones & Skeins
20/2-80/2 Natural and Gassed

DIXIE MERCERIZING CO. DIXIE STRENGTH QUALITY LUSTRE CHATTANOOGA, TENN. REG. U.S. PAT. OFF.

DIXIE MERCERIZING CO.
CHATTANOOGA, TENN.

Chicago Office
817 Old Colony Life Insurance Building
CHICAGO, ILL.

REPRESENTATIVES: Philadelphia, Pa., Cameron & Pfingst—Reading, Pa., Cameron & Pfingst—Canada, Slater & Co., Toronto.

Dyed Cotton Yarn on Cones

—Especially for the Knitting Trade—

NUMBERS 10s—16s DYED IN SOLID ANILINE COLORS OR HEATHER MIXES, ON CONES READY FOR KNITTING MACHINES

PHOENIX UNDERWEAR COMPANY

KNITTING YARNS, JERSEY CLOTHS, TUBING AND LININGS FOR GLOVES AND MITTENS

LITTLE FALLS, N. Y.

Cotton Markets—Continued

Dullest Week of Year

No Call for Staples—Selling in Texas Shows Increase

MEMPHIS, TENN.—The last week of the old crop year was the dullest of them all in the cotton market here. Sales amounted to only 350 bales; there were several days without a sale reported. Declines which stopped offerings may have had something to do with it, but absence of demand and the fact that the stock here consists largely of staples that are not wanted were sufficient to account for the poor business.

The year ends with a total stock here of about 57,000 bales, which, notwithstanding the fact that it is 200,000 bales less than the stock carried over at July 31, 1921, is the largest stock in the United States. Much of this total stock is being offered for resale but with small success. There were inquiries during the week for middling to strict middling 1 1/16 cotton at 200 points on October landed East, subject to call. No business resulted.

Texas Sales Increase

Increasing sales at Texas centers, and reports as to the Texas crop and the willingness of Texas growers to sell are forcing the impression that nothing short of a crop scare of large proportions is likely to help values very much until the Texas crop is out of the way. Few here look to Texas for less than 4,000,000 bales, and many are willing to concede to that State 5,000,000 bales.

The average of opinion here as to the total crop of the belt is close to 12,000,000 bales, subject to reduction in proportion to boll weevil activity during the next 15 or 20 days, and to be increased anywhere from 10 to 15 per cent. in event that boll weevil damage does not increase in comparison with what it is now. Reports so far indicate that weevil damage is great nowhere except in Georgia and Alabama, southern sections of which States have suffered somewhat. About two-thirds of Texas has been needing rain, but northern sections, which were the driest, have been relieved for the time being at least. A bale from the new crop of this section is among the possibilities of the next week or two, although the first open boll is yet to be received. June 12 is the average date of first bloom, July 23 of first open boll and Aug. 11 of first bale. First blooms were received this year on June 16.

Market Statistics

BASIS MIDDLING

	Saturday, July 28	Saturday, July 21
10 markets average	22.24c.	25.89c.
Memphis	23.50c.	27.25c.

PREMIUM STAPLES

First Sales Factors' Table Memphis Grade Strict Middling Nominal

1 1/16-in.	27 -29c.
1 3/16-in.	29-30¼c.
1⅛-in.	27½-29c.
1¼-in.	30-32c.

CURRENT SALES

	For Week.	Week Previous.	Week Before
Memphis, total	350	600	1,400
Including f. o. b.	200	150	700
10 markets total	54,748	17,199	16,200

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week.	Last Year.	Year Before.
Gross receipts	3,101	6,521	8,414
Shipments	3,546	13,085	14,104
Net receipts	346	497	1,372
Total since Aug. 1, net	338,366	335,246	365,040
Total stock	57,430	63,891	257,114
Decrease for week	445	6,995	5,690
Unsold stock, estimated	18,500	25,000	172,000
Decrease for week	....	1,000	3,000

Staple Cottons Neglected

Little Interest in Spot and Still Less in Future Shipments

BOSTON, Aug. 1.—The steady downward tendency of futures until today has still further restricted a previously sluggish demand, and today's wide fluctuations following an unexpectedly bullish government condition report has failed to stimulate buying interest. The government report is ridiculed by the majority of spinners and the cotton trade, and unless promptly confirmed by reliable private reports can have no permanent bullish influence. The majority of fine count cloth mills using staple cottons are well covered with raw material for two or three months and curtailment of production by sales yarn mills is so radical that they are seldom in the market.

Most shippers are now quoting both long and short staples for October-November shipment and are asking a premium of 1 to 1½c. for spots. There is a wide variation between premiums asked by various shippers, but on full 1 1/16 inch strict middling hard western cotton it ranges from 300 to 400 points on October; 1 1/16 to 1 1/8, 400 to 500 points; full 1 1/8, 550 to 650 points; full 1 3/16, 750 to 850 points; and full 1¼, 950 to 1050 points on. An occasional shipper is holding quarters and longer staples on a basis of 35 to 36c. for 1¼ inch strict middling, but such prices are deemed prohibitive.

Egyptians show little change for the week and no sales are reported excepting for few bales of Sak. and low grade Uppers from stock. Prices of the latter range 2 or 3c. below those for prompt shipment.

Prices and Statistics

Average prices for strict middling hard western cotton for Oct-Nov. shipment are as folows:

1 1/16 inch	25½ to 26c.
1 1/16 to 1⅛ inch	26½ to 27c.
1¼ inch	27 to 28c.
1 3/16 inch	29 to 30c.
1¼ inch	32 to 33c.

John Malloch & Co., Boston, quote Egyptian cotton for prompt shipment c. i. f. Boston, as follows: Medium Sakelarides, 31⅞c., up 3/8c. from July 25; medium Uppers, (Oct.-Nov. shipment) 29⅞c. They report closing prices Aug. 1 on the Alexandria exchange as follows: Nov. (Sak.) $30.15, off 29 points from July 25; Aug. (Uppers), $27.62, off 13 points.

Retires from Partnership

Jas. W. Spencer has retired from the partnership of Seignious & Spencer, Greensboro, N. C., cotton merchants and brokers. The partnership was dissolved by mutual agreement.

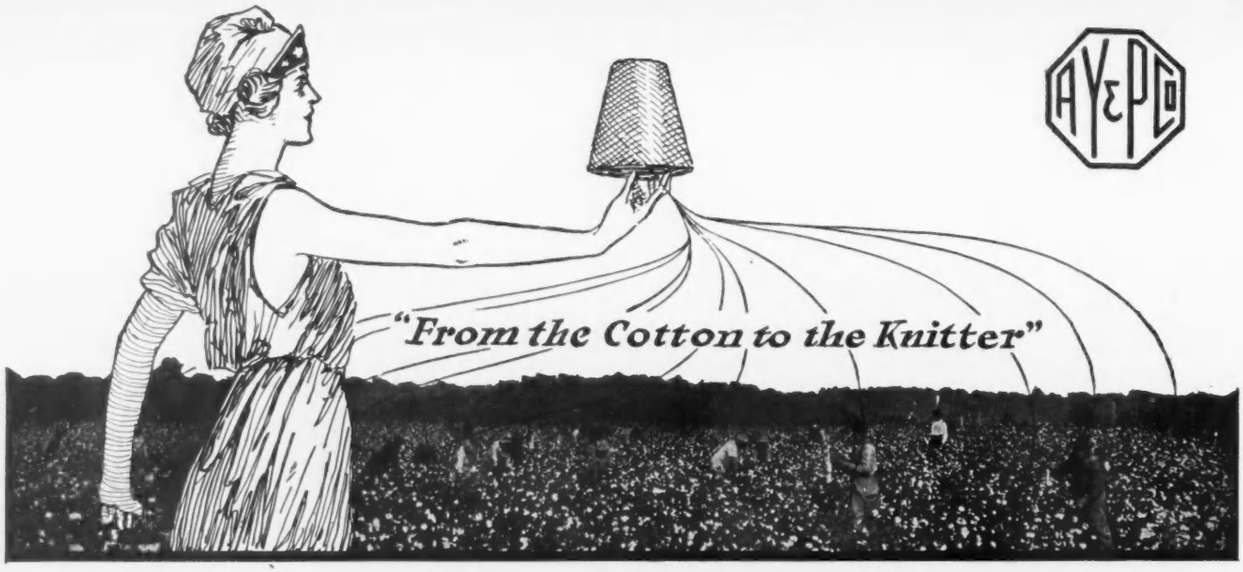
THE ELMORE COMPANY
MERCERIZED
YARNS
Spindale
N.C.

Single Yarns
MERCERIZED
on Cones
THE ELMORE COMPANY
Spindale, N. C.

Selling Agents:
COTTON PRODUCTS CO.
Empire Bldg., - Philadelphia

H. M. REMINGTON
113 Chestnut Street Philadelphia, Pa.
Sole American Representative of
McCONNEL & CO., Ltd.
Manchester, Eng.
Spinners and doublers of fine cotton yarns especially adapted for the making of laces, voile, fine hosiery dress goods and insulating wires.

KENNEDY YARN COMPANY
Combed and Carded
COTTON YARNS
For Weaving, Knitting and Converting
308 CHESTNUT ST., PHILADELPHIA



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AMERICAN YARN & PROCESSING CO.

General Office, Mount Holly, N. C.

Spinners and Mercerizers

HIGH GRADE COMBED AND CARDED YARNS—16s to 80s

Our Mercerized Yarns Are the Product of Our Own Mills

Representatives

H. B. ROBIE, 346 Broadway, New York City

FORREST BROTHERS, 119 S. 4th St., Forrest Bldg., Philadelphia

The Halliwell Company

Dyers, Bleachers and Mercerizers of Cotton Yarns in Warps or Skeins

High Class Mercerizing in warps Only — Fast Colors A Specialty

A new plant, latest and most modern machinery and equipment, backed by thirty-five years of specialized experience, guarantees service and satisfaction.

The Halliwell Company

PAWTUCKET, RHODE ISLAND

Founded 1884 Incorporated 1914

THOMAS HENRY & SONS, Inc.

Manufacturers of

Carded or Combed, Natural or Mixtures

COTTON YARNS

SPECIAL MERINO

For Knitting and Weaving

Trenton Ave. and Tioga Street Philadelphia, Pa.

THE J. R. MONTGOMERY CO.

WINDSOR LOCKS, CONN.

Manufacturers of

MERCERIZED COTTON YARNS Give the high Silk-like lustre In Knit Goods and Woven Fabrics

NOVELTY YARNS Poucle, Bourette and Spirals in Cotton, Wool, Worsted, Mohair and Silk

COTTON WARPS On Beams, Jacks, Spools and Tubes In Fancy Twist, Colors and Printed

—Write to—

us for samples and prices of sewing, seaming and splicing threads for hosiery and underwear manufacturers. Accurate color matching. Prompt deliveries.

—Florence—

Thread Company

Florence, N. J.

COTTON YARNS PLUS SERVICE

ANY COUNT OR VARIETY EASTERN OR SOUTHERN GREY OR PROCESSED

Advice Based on Our Experience of Thirty Years in Bleaching, Dyeing, Mercerizing, Etc. at your Service

E. J. McCAUGHEY, 51 Arlington St., Pawtucket, R. I.

COTTON WARPS

DANA WARP MILLS Westbrook, Maine

Cotton Yarn and Warps, Carded and Combed

WHITE and COLORED SINGLE and PLY SELL DIRECT

SOLWAY DYEING & TEXTILE CO.

PAWTUCKET, R. I.

Dyers, Bleachers and Mercerizers of Cotton Yarns, Warps or Skeins

ABSOLUTELY FAST COLORS

OBITUARY

Benjamin B. Read

Benjamin B. Read, prominent cotton manufacturer of Fall River, Mass., died late Wednesday afternoon at the Union Hospital in that city where he was operated upon for acute appendicitis on Monday night.

Mr. Read was born in Fall River on Feb. 28, 1874, the son of Benjamin B. and Lucy S. Read. He attended the public schools, graduating from the B. M. C. Durfee High School in the class of 1894. His first employment was as private secretary to the late George H. Hills and he soon advanced to bookkeeper of the Davol Mills. From the Davol, Mr. Read went to the Stevens Mfg. Co. as superintendent and remained there until the organization of the Lincoln Mfg. Co. in 1906. He was largely responsible for successful launching of the Lincoln Mfg. Co. and he was made treasurer of the same, a position which he held until his death.

Mr. Read was also an important factor in the reorganization of the Parker and Hargraves Mills two years ago when the Parker took over the Hargraves.

His further business activities included the acting as treasurer of the Kilburn-Lincoln Machine Co., president of Allen Slade & Co., large wholesale grocers, and director of the Metacomet National Bank. He was a member of the Fall River Country Club, the Quequechan Club, Acoaxet Club, Fall River Yacht Club and several fraternal organizations. He is survived by his mother, widow and one son.

M. H. Shufelt

M. H. Shufelt, who has for some time been associated with Thomas E. Wilson & Co. of Chicago, died in that city recently. Prior to going with the above named firm, he was formerly with the Malden Knitting Mills in Malden, the Capron Mills at Utica, N. Y., and with Williams Brothers at Rome, N. Y. Mr. Shufelt was an expert in connection with the manufacture of underwear and sweaters. He is survived by his widow.

Mrs. Evelyn Brown

Mrs. Evelyn Brown, who will be remembered as the efficient and courteous secretary to Rufus R. Wilson when the latter was secretary of the National Association of Cotton Manufacturers, died of pneumonia at Hanover, N. H., July 23, after a short illness.

I.C.C. to Probe Export Rates

Washington, D. C.—Preference given to waterfront localities and shippers by the alleged practice of carriers and shippers in applying domestic rail rates, on cotton from Oklahoma, Arkansas, Texas and Louisana to waterfront warehouses at Gulf ports and subsequently exported, that are lower than the corresponding export rates, will be investigated by the Interstate Commerce Commission.

Textile School Additions

Machinery Builders Donate Machines—New Annex Ready

New Bedford, Mass.—The installation of additional machinery in the annex of the New Bedford Textile School is rapidly being completed. The new addition will provide extra floor space of 12,000 square feet, which, with the 60,000 square feet available on the Purchase street frontage of the building, will make in all 72,000 square feet. It is predicted that the coming year will come near being a record for enrollment. The scholastic term will open Sept. 10.

Manufacturers of cotton manufacturing machinery have been liberal in their donations to assist the school, and several gifts along these lines have been gratefully acknowledged by the trustees of the institution. In some instances, previous donors of machines have taken out the older equipment and replaced it with more modern designs. The Bahnson Humidifier Co. of Winston-Salem, N. C., has donated six additional humidifiers in addition to the three already in use in the old building.

Crompton & Knowles Loom Works of Worcester and Providence recently supplied six looms, and the H. & B. American Machine Co. of Pawtucket has loaned for an indefinite period a carding machine, a slubber and a spinning frame. The Whitin Machine Co. of Whitinsville is planning to forward a comber, spinning frame and a roving frame and the same concern is now at work rebuilding a carding machine that was in operation.

During the vacation period there has been an opportunity to centralize the machinery so that in future there will be an opportunity to increase the production. The spinning and weave rooms are being equipped with new shafting. All of the looms will now be concentrated on one floor in the new addition, for the production of fancy cloths. Where the machines have been moved from the older building to the new one the shafting, electric motors and wiring systems have been moved also.

One of the features to be set up on the first floor of the building is to be an exhibition platform, demonstrating the many belting devices and arrangements that are in actual operation in cotton mills. The difficulties encountered in arranging belt drives for awkward corners is demonstrated in different ways, and an excellent system of rope drives is used in connection with the belting platform.

Amsterdam, N. Y. Court proceedings may be started by the Board of Education to acquire from the Griffin Mfg. Co. the three-story building on Guy Park avenue, which was recently purchased by the knit goods concern. It is understood that the property is desired as a site for a new high school. The plant was at one time occupied by Van Brocklin & Son and later by the Gem Apron Co.

SPINNERS MERCERIZERS CASSERS BLEACHERS

THE increasing demand for better mercerized yarns by critical knitters, was early recognized by this company. As a result every facility which would assist in producing better yarns was employed, and will continue in use to improve and maintain this quality. Standard Yarns reflect such effort in better garments—lustre—uniformity—strength and economical production.

The yarn and its users are the greatest proof.

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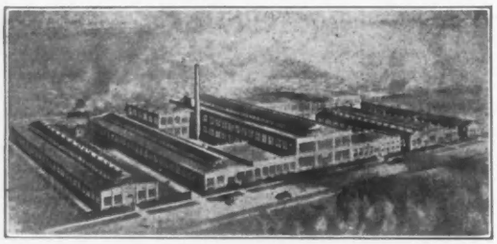
Chattanooga, Tenn.
SALES OFFICE
LAFAYETTE BLDG., PHILADELPHIA
CANADA
WM. B. STEWART & SONS
TORONTO - MONTREAL

ASHWORTH-ODELL WORSTED CO.
SALAMANCA, N. Y.



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BOTANY WORSTED MILLS PASSAIC, N. J.
FINE FRENCH SPUN WORSTED YARNS
Of Every Description for Knitting and Weaving
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Spinners of Worsted Yarns in the Grey for Weaving and Knitting
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Tops and Worsted Yarns
FOR
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Trade both in Grey and Mixtures

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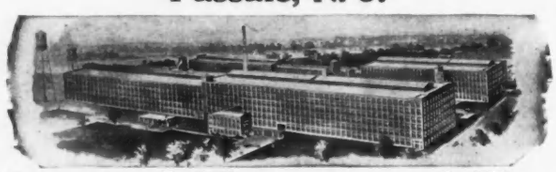
SPINNERS OF
Worsted Yarns for Weaving and Knitting
Mills, Trenton, N. J.
Thrown and Artificial **Silks**

Passaic Worsted Spinning Co.
Passaic, N. J.



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for weaving and knitting
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Minerva Yarns
for Hand knitting and crocheting
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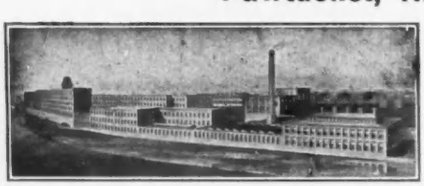
New York Office, 220 Fifth Avenue
Chicago Office, 175 West Jackson Boulevard

D. GOFF & SONS, Inc.
Pawtucket, R. I.



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Frankford Ave. & Westmoreland St. Philadelphia, Pa. P. O. Station "E"

UNDERWEAR HOSIERY
SWEATER WEAVING
YARNS
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Knitted OUTERwear deserves the preference

French and English Spun Worsted
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MOHAIR **WORSTED** WOOLEN
MERINO AND SPUN SILK
YARNS
OF EVERY DESCRIPTION
PERCY A. LEGGE, PHILADELPHIA BOSTON CHICAGO

WORSTED YARN MARKETS

Yarns Are Inactive in Waiting Market

Stock Lots Sold at Low Prices—Interest in Dress Goods Openings—Wool Firmer

The worsted yarn market has been without marked interest during the last week. Manufacturers who have been inquiring for yarns recently have, in most instances, withdrawn from the market, and have decided to postpone purchasing for the time being. Mills have not received sufficient orders on lightweight goods as yet to make it necessary for them to purchase additional yarns; until this situation changes the majority of factors in the yarn market do not look for any buying movement of consequence to develop. The volume of business actually transacted is of such a small character as to make it difficult to say what price represents the market. Certain spinners, it would appear, are in need of orders to keep their mills running; in these cases quotations have been lowered 10c. or more on certain counts in order to attract business. These cheaper prices, however, seem only to have the effect of causing buyers to become less certain of the desirability of making commitments. Stock lots of yarns are being purchased by manufacturers, when actually needed, at figures considerably under lowest quotations obtainable from spinners.

The majority of men's wear manufacturers have not booked sufficient business on lightweights to make additional yarn purchases imperative up to this time. Should goods of this character move more freely in the next three weeks, as many believe, additional yarns will be required. However, it is thought the yarn market will be benefited to a greater degree by the opening of dress goods lines, which in the case of the largest factor occurred on July 31. The late spring retarded sale of men's clothing and this is expected to have some effect among buyers of lightweight goods for next year, causing them to be more conservative than usual in buying new lines. However, an entirely different situation is expected to develop in dress goods.

Wool Market Steady

Many spinners say they are unable to quote lower prices on yarns as long as the wool market continues to remain around present levels. Figures are given to show they are unable to purchase fine wools at $1.40 scoured basis and sell 2-50s any lower than $2.70 and make any profit on the transaction. Rather than sell yarns on this basis many say they will close their plants; reports from several spinners indicate they are now running only four days a week. The wool market at present seems to offer small consolation to spinners who hope to cover their wool requirements at lower levels. Wool prices seem to have steadied considerably during the last two weeks, at figures a little under best prices obtainable two months ago. In other words there is no basis in raw material market at present on which spinners can lower their quotations. Spinners who for reasons of their own find it necessary to book low priced business will soon have sufficient quantity of these orders on their books, and they must then refuse to accept further orders except at a price that will include a reasonable profit.

Scattered Knitting Interest

Knitting yarns reflect scant interest, with scattered demand for small amounts from sweater, bathing suit and fancy knit goods trades. Dealers are receiving a fair number of inquiries for these yarns, but no business of volume has been noted. Certain spinners of this class of yarn show a willingness to lower quotations at least 5c., when necessary to get the order. Dealers do not look for actual orders to increase greatly until September and October, as August is usually a dull period each year with them.

QUOTATIONS

(Corrected at Close of Business Wednesday)

BRADFORD SYSTEM

1/2s-2 to 16s-2, low common	1 00	—1 05
20s-2 to 24s-2, low ¾	1 25	—1 30
20s-2 to 26s-2, ¾ blood	1 45	—1 55
24s-2 to 30s-2, ¾ blood	1 55	—1 65
20s-2 to 32s-2, ¾ blood, S. A.	1 55	—1 60
32s-2 ¼ blood	1 60	—1 65
20s-2 ⅝ blood	1 80	—1 90
36s-2 ⅝ blood	1 85	—1 95
36s-2 ⅝ blood	1 90	—2 00
36s-2 ⅝ blood	1 95	—2 05
36s-2 ½ blood	2 27	—2 37
36s-2 ½ blood	2 31	—2 41
40s-2 ½ blood	2 35	—2 45
50s-2 high ½ blood	2 65	—2 70
50s-2 fine	2 75	—2 80
60s-2 fine	3 20	—3 35
40s-2 Australian	Nominal	
50s-2 Australian	Nominal	
56s-2 Australian	Nominal	
70s-2 Australian	3 45	—3 55

FRENCH SYSTEM

20s quarter	1 60	—1 70
20s high quarter	1 80	—1 90
20s ⅝ blood	1 95	—2 00
30s ⅝ blood	2 05	—2 10
30s ½ blood	2 30	—2 35
40s ½ blood	2 45	—2 55
50s	2 80	—2 85
40s Australian	Nominal	
50s Australian	Nominal	
60s fine Australian	Nominal	

KNITTING YARNS IN OIL, BRADFORD SYSTEM

1/2s-2 to 16s-2, ¾ blood	1 45	—1 50
18s-2 to 20s-2, ¾ blood	1 50	—1 55
24s-2 to 26s-2, ¾ blood	1 55	—1 70
24s-2 to 28s-2, ⅝ blood	1 70	—1 80
24s-2 to 30s-2, ⅝ blood	1 90	—2 00
24s-2 to 32s-2, ½ blood	2 25	—2 30

FRENCH SPUN MERINO, WHITE

50s-50s	1 60	—1 70
40s-40s	1 67½	—1 77½
36s-36s	1 77½	—1 87½
30s-30s	1 82½	—1 92½

Yarns Are Unmoved

Goods Opening Thus Far of Sentimental Influence Chiefly

BOSTON.—A waiting policy still characterizes the worsted yarn market; spinners, however, are more optimistic, believing that good business is about in sight. A leading

Pocasset Worsted Company, Inc.

Worsted Yarns

OFFICE

10 High St. Cor. Summer Boston

WORSTED YARNS
GRAY AND FANCY SHADES
BRADFORD STEEL SYSTEM
TWISTS AND MIXTURES
WEAVING-KNITTING

WARNER J. STEEL
Successor to EDWARD T. STEEL & CO.
Mills and Office BRISTOL, PA.

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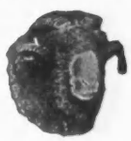
Established 1856
Woolen and Merino Yarns

Specialists on Unusual Yarns
J. RANDALL & BRO.
Incorporated
GERMANTOWN, PHILADELPHIA

Woolen and Merino Yarns
WEAVING

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Manufacturers Since 1864
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JWD FRENCH SPUN YARNS
FOR KNITTING AND WEAVING
Manufactured by
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WOONSOCKET, R.I.
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THOMAS H. BALL
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S. BIGGIN & CO. INC.
TEXTILE BIG-IN SERVICE LEATHERS
100 PURCHASE ST. BOSTON

APRONS FOR
Combs and Gill Boxes
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AGENTS FOR
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ART SILK
TOPS and NOILS
Recognized as the standard by spinners of Quality
S. FEATHER CO.
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95 MADISON AVENUE
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Dyed Silks
Silk on Quills or Beams
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Machine for rapid and Economical Method of Attaching Rider tickets to Hosiery or other Garments.
Uses pointed staples, cannot tear the finest fabric
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LOOP and NOVELTY YARNS
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WORSTED SPINNERS
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KNITTING YARNS
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Boston Representative, E. L. Stelle, 52 Chauncy St., Boston

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WORSTED YARNS
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for Weavers and Knitters

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JACOB N. CHESTER
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MINDLIN & ROSENMAN Importers and Manufacturers of
Artificial Silk, Mercerized and Cotton Yarns
Raw, Thrown and Dyed Silk for the Knitting Trade
Silk on Spools, Cones, Tubes and Quills. *Hosiery Silks a Specialty*
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Bindings and Ribbons
For binding Cotton and Woolen Bed Blankets.
Go-Cart Covers, Kimonos, Bath Robes, etc.
Special Colors or Shades made to order

Thread and Silk SPOOLS of any Description
Made from one piece, up to 6' long and 3" dia.
We are located in the best white birch region. Our work and prices seem to satisfy the most particular customers. We can give any finish desired. Estimates furnished on samples submitted.
E. L. Tebbets Spool Company, Locke's Mills, Maine

Rockwell Woolen Co.
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Manufacturers of
WOOLEN and MERINO YARNS
FOR WEAVING and KNITTING
Heather a Specialty Mixtures and Decorative Yarns

Worsted Yarn Markets—Continued

spinner interrogated as to the immediate results of the light-weight opening said that demand for men's wear yarns was still slow, but that yarns for dress goods and knitters were showing more activity. In his opinion on the appearance of any large demand prices would have to be advanced to meet the high wool level maintained by domestic growers. Asked why he emphasized the attitude of the growers, he replied, because the bulk of the domestic wool was now held for growers' account at high prices.

A leading agent in this city after interviewing a number of manufacturers during the last few days states that he found them uniformly optimistic in sentiment, but not placing any business. The question of prices was hardly raised; it is considered that prices will be stabilized when business appears and not until then and that published quotations are to be considered as a general guide giving nominal prices. It is said that some spinners will accept business in 2-40s as low as $2.30, realizing that it is cheaper to sell at cost than to shut down.

The spinner, it is to be understood, is still confronted by firm markets in wools and tops. If fine tops could be bought well below $1.70 and half bloods below $1.60 better business would start up immediately, it is said. Top makers at time of writing, however, insist upon their inability to meet the low prices mentioned by spinners.

Worsted Yarn Trade Note

Eugene P. Fougeray has associated himself with the Thos. H. Ball organization, worsted yarns, Philadelphia. He will represent them in the New England territory and will make his headquarters at 158 Summer street, Boston. Mr. Fougeray is generally well known throughout the trade having been identified with the worsted yarn business for many years. In addition to this Boston office, this organization also maintains branch offices in New York, Providence and Cleveland.

Top Market Firm

Business Offered 5-7c Below Market Not Accepted—Noils Easy

Boston.—The top market at time of writing has not received any large amount of business as a result of the light-weight opening but revival of interest is apparent and inquiries are more numerous. The main feature of the situation is the insistence on lower prices by prospective buyers. Large business is offered at $1.70 for fine tops, $1.55 for half-blood and $1.35 for high three-eighths blood. Quotations maintained by producers are 5 to 7c a pound above these figures and combers are standing firm on the position that it is quite impossible for them at the present time to buy wools that would enable them to manufacture tops at these prices at a profit.

There is a tendency for tops grading from high three-eighths blood downward to strengthen. High quarter blood, quoted last week $1.02-05, is now quoted 2c. a pound higher. Crossbred 46s also are up 1c for the week. In the Bradford market during the last few days 64s have declined 1d and 50s ½d. All other numbers are unchanged.

Large stocks of noils continue to depress the market. Producers are selling these commodities pretty close to cost, and lower than cost in some cases. Activity in the worsted industry has been continuous and good throughout the year, with every appearance that the light-weight opening will eventually result in good business. Activity in worsted mills means correspondingly large output of noils which can be utilized only by felt manufacturers, knitters and producers of woolen fabrics. It is still a buyer's market in noils. The choicest fine noils can be purchased at 70-72c. Other grades are soft in sympathy with this leader. Specialty noils hold firm. Mohair, camel hair and artificial silk continue to sell with comparative ease at good prices.

Current Quotations

	Tops	Noils
Fine territory	$1.75-$1.76	70-73c.
Half-blood	1.60- 1.62	67-68c.
High three-eighths blood	1.40- 1.42	60-62c.
Aver. three-eighths blood	1.35- 1.37	58-60c.
Low three-eighths blood	1.10- 1.13	53-55c.
High quarter-blood	1.05- 1.07	48-50c.
46s	.92- .93	43-45c.
44s	.80- .82	40-43c.
40s	.70- .72	39-40c.
36s	.70- .71	37-38c.

Spun Silk Quiet

Demand Chiefly for Small Lots—Lower Prices Expected

The spun silk market was quiet during the week with quotations unchanged. Hand-to-mouth buying continues in fair volume, although the larger users are unwilling to commit themselves for any length of time ahead in view of the declining raw market.

Quotations are as follows:

60-2	$6.30	30-2	$5.10
50-2	5.75	20-2	4.75
40-2	5.60	60-1	5.25

Art Silk Good

Mills Well Sold Up—Additional Improvement Expected

Demand for artificial silk continues active with mills operating at or near capacity. With the recent price cuts out of the way, buyers are more disposed to contract for the future and a number of mills are reported well sold up for several months to come. Additional improvement is expected with the opening of the knitwear season.

Prices are as follows:

300 DENIER

Grade	A—Bleached	$2.65
Grade	B—Bleached	2.35
Grade	C—Bleached	2.05

150 DENIER

Grade	A—Bleached	$2.80
Grade	B—Bleached	2.40
Grade	C—Bleached	2.05

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SOAP MFG.
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PHILADELPHIA
For Over Half a Century Makers of High Grade Soaps and Scouring Materials for Textile Manufacturers

Spun Silk

—prompt service, Careful attention

—for decorating worsteds and woolens.

—resist colors and extra fast shades for special requirements.

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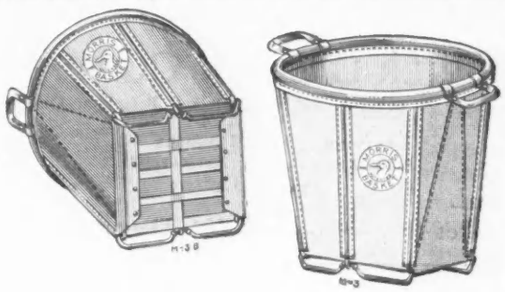

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Sturdy frames of Round Spring Steel covered with closely woven heavy cotton duck insure long years of hard service for Morris Duck Baskets.

These baskets for mill use come in many types and sizes. We furnish them with either steel or wood runners, whichever you specify.

For every purpose that a basket can be used in a mill you will find that a Morris Duck Basket has been designed.

MORRIS TRADE MARK PATENTED BASKET

Write us to send you booklet and prices

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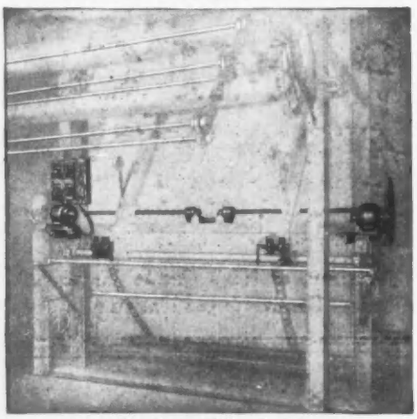
Groveville New Jersey

THE SCHWARTZ AUTOMATIC ELECTRIC GUIDER (Patented)



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For Straight and Swing Tenters and Wool Dryers.

INSURES a more even stretch to the cloth, and allows the cloth to run free and unhindered at whatever speed may be desired.

Reduces labor costs.

Handles cloth of any kind, weight or width.

Absolutely reliable.

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Established 1883

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Established 1796

Special shaped carbon, black diamond, **pointed tools for** turning paper, rag, corn husk and cotton **calender rolls,** hard rubber, fibre, etc.

Manufactured by

Thos. L. Dickinson, Successor to

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WILTS VENEER PACKING CASES

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WOOL MARKETS

Firm, Slow, Cautious Market For Wools

Opening of Spring Goods Without Material Influence Thus Far—Consignment Year in Wools

BOSTON.—The wool market is fundamentally firm but temporarily inactive. Merchandisers will have to exercise patience until all spring lines are open and then some, perhaps. Fundamentally strong though the market is believed to be, prices nevertheless tend to sag and it is possible to pick up a moderate volume of wool at slightly lower prices than indicated by published quotations. There is no dumping of wool, however; just a tendency to keep in touch with the market, such as it is, established by the limited mill buying now taking place. Opening prices for spring fabrics indicate thus far a maintenance of current values in wool.

The semi-stagnant condition of the market raises the question as to the future of prices. Major opinion is that in view of prices paid by present wool holders in the spring for western wools and for foreign wools generally, the market is quite low enough. On the other hand there are to be found those who are not disinclined to sell on the market level made by manufacturers' bids.

It is not expected that higher wool prices will be registered; in places it may be possible for manufacturers and topmakers to secure wools at slightly lower level. The wool trade, as a whole, however, will keep very close to market values as determined to a large degree by the views of manufacturers in close touch with the goods situation, and sensing a little more accurately perhaps the temper of the purchasing public some months from now, than is possible to the average wool merchant. New business to come to the wool market is likely to appear gradually, thus preventing any rise in prices and the same seems true regarding yarns and tops. That there is better business ahead seems assured. It has recently been said by a high authority that there is "a vacuum in the country in both cotton and woolen goods." That the New York opening is proceeding slowly is a matter of common knowledge; it is perhaps a little more normal, lacking as it does the enthusiasm and immediate buying that prevailed a year ago.

The general situation does not seem particularly favorable just at present to any extended buying movement whether in goods or raw materials. To sell a large volume of fabrics on a new high price level at a time when the country generally has hardly recovered its confidence, severely tested by falling prices in most basic commodities, is no easy task. The net results of the spring opening so far have been to put heart into manufacturers and distributors of the so-called heavyweight fabrics. Unless the demand for wool should die away completely, an improbable supposition, there is little in the situation to suggest much lower prices.

The year, 1923, is likely to be a consignment year. Boston certainly is not overstocked with domestic wools. The territory clip proper has been estimated at 150,000,000 pounds, one-third of which was taken at high prices in the spring, manufacturers being direct buyers of at least half the amount then purchased. The situation may be represented without claiming any particular accuracy by stating that dealers have acquired 50,000,000 pounds, mills 30,000,000 pounds, and that 70,000,000 pounds would represent the consignment total, part coming to Boston and the larger part remaining probably in the middle west.

Receipts of wool in pounds for the week up to Wednesday follow:

	1923.	1922.
Domestic	4,563,400	6,648,750
Foreign	742,000	5,925,100
Total	5,305,400	12,573,850

Receipts of wool in pounds since Jan. 1, 1923, compared with the same period in 1922, are as follows:

	1923.	1922.
Domestic	88,150,100	137,536,050
Foreign	253,473,400	140,939,150
Totals	341,623,500	278,475,200

Shipments of wool for the week ending and including Aug. 1, follow:

Boston & Maine	1,737,000
Mystic Wharf	.....
By sea	1,027,000
Grand Junction	.....
Boston & Albany	769,000
New Haven	738,000
Total	4,271,000
Shipments during previous week	3,678,000
Shipments same week last year	3,736,990
Shipments thus far for 1923	89,370,000
Shipments similar date 1922	50,092,990

Better Tone Reported

Improved Demand for Wools with Sales

PHILADELPHIA.—Although actual business received by dealers in this market during the last week has been of small volume, a better tone is discernible. A number of manufacturers are inquiring for prices, resulting in several sales, 300 bales 64s and 70s Australian bringing $1.50 out of bond; 50,000 pounds quarter blood fleeces 46c.; 20,000 pounds three eighths fleeces 50c.; 25,000 territory 46c.; and 75,000 pounds half blood Montana changing hands at 49 to 50c. Conditions are now on a better basis due to this improved demand, which is expected to develop further during this month, as a result of the opening of new lines by manufacturers during the past weeks. The majority of mills are continuing their policy of buying small quantities of wool as needed, rather than ordering for future requirements. Stocks of wool in mill hands are said to be small, with a tendency to decrease further, even though manufacturers in this district are consuming considerably less wool at this time when compared with May consumption figures.

Wools Exported for Resale

Wools in this market continue on a level lower than that existing in any of the foreign markets, with the result large quantities have been exported for sale in England, where higher prices are obtainable. This condition if continued for any length of time can only have a strengthening effect upon prices in this market, after the excess stocks of these grades have been removed in this manner. It is also noted stocks of wool in mill hands, which were admittedly large in some instances, have continued to decrease until at present they are considerably under the average of past years. It is also to be noted orders for new goods are being received in good volume by many mills, particularly by dress goods manufacturers, so that many dealers taking these factors into consideration are looking for a good business in wools to develop when this improvement works back to the raw material market.

Pulled Wools Improve

Pulled and scoured wools show a slightly better tone, with a small amount of business reported. Buying of these wools is of a hand to mouth variety only; manufacturers are hesitant in ordering ahead, except possibly in lambs, which are sold ahead in some cases. B Lambs are being quoted from 85 to 90c. Last season's wools are said to be well cleaned up and very little stock carried over. Noils are in somewhat better demand, with prices remaining unchanged; quarter blood being quoted at 45 to 50c. and three eighths at 55 to 60c. Carpet wools are inactive, only small lots being sold at prices noted previously.

Phila. Wool Trade Notes

Joseph Lindenfelser, formerly connected with I. Reifsnyder Son & Co., 110 S. Front street, for 14 years, has become associated with Hugh T. Smith & Co., Inc., 126 Chestnut street, pulled wool and waste dealers.

James H. Royer, formerly of Hugh T. Smith & Co., Inc., 126 Chestnut street, is now associated with F. W. Whitaker & Co., 120 Chestnut street, dealers in wool, noils and waste.

Wool Trade Spotty

Buyers Not Yet Ready to Operate on Broader Scale

CHICAGO—Business is spotty here. Dealers report that they have good business for a day or so and then it drops off again only to bob up later.

A sale of short lamb's wool in the grease was reported at 29c. and low coarse fleece wools have sold in limited amounts near the 40c. mark. A few lots of scoured A wools have sold at figures which show about $1.00 net. Some B wools have moved also which will cost the manufacturer 85c. or better.

Bright wools are quite firmly held by some operators at original points at 50c. for quarter and three-eighths blood but buyers are not ready to take hold just yet at these prices. Some western wools have been bought for accounts here, but when more was offered buyers from other sections they were not interested even for choice wools of same cost clean.

QUOTATIONS

(Corrected at close of business Wednesday)

OHIO, PENNSYLVANIA AND WEST VIRGINIA

Fine cloth'g..52—54	⅜ blood.....54—55
Fine delaine..56—57	¼ blood.....52—53
½ blood .....55—56	

MICHIGAN AND NEW YORK

Fine delaine..54—55	½ blood.....53—54
Fine cloth'g..49—50	¼ to ⅜ bl'd.51—53

INDIANA, MISSOURI AND SIMILAR

½ blood.....53—54	¼ blood.....48—50
⅜ blood.....51—52	Common.....36—38

CALIFORNIA (Scoured basis)

Northern	Southern
12mo. ...125—1.30	12mo. ..1.15—1.20
Sp'g middle	Fall free..1.00—1.05
counties .1.10—1.15	Fall defects.95—1.00
	Carbonized 1.00—1.10

TEXAS (Scoured basis)

Fin. 12mo..1.25—1.30	Fine fall..1.00—1.05
Fine 8mo..1.15—1.20	

PULLED—EASTERN

Scoured	Scoured
Fine .....1.30—1.35	Lambs Bs. .85— .90
A Super...1.15—1.20	C'bgs fine..1.10—1.15
B Super... .90— .95	Medium .. 90— 95
C Super... .70— .75	Coarse .... 70— 75

MONTANA, IDAHO AND WYOMING (Scoured basis)

Staple fine.1.40—1.45	Fine & fine med.
Do. ½ bld.1.25—1.30	clothing.1.25—1.28

UTAH (Scoured basis)

Fine .....1.30—1.35	Fine mdm.1.20—1.35

COLORADO AND NEW MEXICO (Scoured basis)

Fine .....1.25—1.30	½ blood...1.20—1.25

NEVADA (Scoured basis)

Fine mdm.1.30—1.35	Fine clthg.1.25—1.28

MOHAIR

Domestic	Foreign (In Bond)
Best combing.78—82	Turkey .....38—48
Best carding..68—72	Cape .....35—40

FOREIGN CLOTHING AND COMBING (In Bond)

Clean Basis	In Grease
Cape:	Montevideo:
Combing, choice 1.18—1.22	56-58s .....45—48
Combing, good .1.15—1.20	56s .....43—45
Clothing, choice. .95—1.00	50s .....38—40
good... .90— .95	Buenos Aires:
Australian:	40s 22-24
70s .....1.20—1.25	46s 26-29
64s .....1.15—1.20	
56-58s .. 89— 93	

FOREIGN CARPET (Grease basis) (In Bond)

Aleppo:	Khorassan:
Wash .....30—32	1st clip ....28—30
Angora .....15—17	2nd clip....26—28
Awassi:	Mongolian:
Washed ...28—30	Urga .....24—26
Karadi:	Manchu'n ..18—21
Washed ...28—30	Scotch Black
China:	Face ..21½—22½
Combing ..22—24	Camel's Hair
No. 1 Wld ball .....50—55	(Russian) ....—..
Will. filling...21—22	Servian skin wool .....26—29
Szechuen assortm't..21—22	East India:
Cordova .....19—20	Kandahar ..32—35
	Vickan'r ...32—37
	Joria .....36—40

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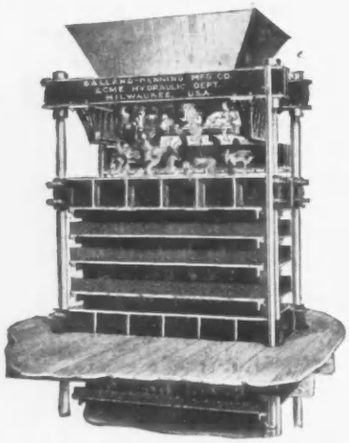

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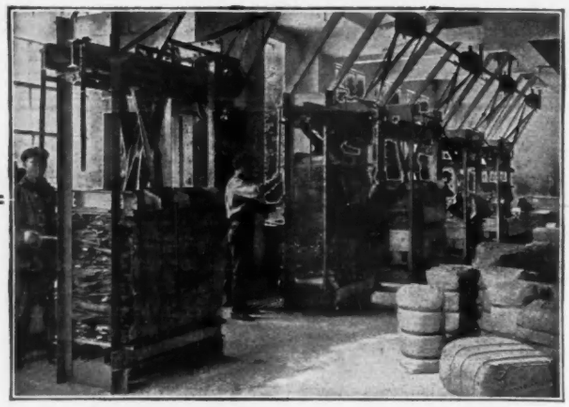

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Careful Graders of
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RAGS, SUBSTITUTES AND WASTE

Spring Price Opening Helpful to Substitutes

Maintenance of Heavy-weight Values May Open Way for Re-orders in Reworked Wools

The recovered wool market continues featureless but with rather better hopes of additional business from manufacturers of heavy-weight fabrics. The light-weight opening with its advance of approximately 7% on fabrics usable the entire year round has steadied the market, guaranteeing to merchandisers and distributors the value of their stocks as well as of the goods yet to be delivered on contract. Altogether apart from spring fabrics this situation is favorable to heavy woolens and ought in due time to be seen in this market in the shape of re-orders and additional business for recovered materials. Although reworked wools could be marked down slightly yet there is less reason to do this than there was a week ago and the probability is that the same line of prices will prevail.

Buyers for mills are endeavoring to depress prices for noils and mill wastes and it is not unlikely that they will follow the same policy in placing their new business on reworked materials. The industry as a whole is turning out a considerable quantity of material every week but its deliveries are being made on old contracts, and it is new business that is vital to the situation. The main question is whether the general woolen industry of the country with its allied branches in felts, hosiery and sweaters will be able to carry along to the close of the year the fairly good business which has featured the year so far.

The situation in the graded rag market is far from satisfactory. But this is no new story. It looks on the face of it as though the rag market in relation to the limited demand made upon it, was fully overstocked. Graders are willing to make concessions in order to obtain business but their efforts in this direction are usually futile. Mixed softs are stiffer, as high as 8c. having been paid recently, and cloth is firm at $1.75. Why there should be any advance in softs at a time when graded stocks are declining is somewhat of a mystery. The demand for fine light merino is slower and this has been one of the standbys of the market. Recent business in graded stocks has included white softs, light hoods and blue knits. Were it not for the responsibility felt by some of the established graders for their old help there would surely be some shut-downs.

The British rag market is similar to our own with prices all around showing a tendency to decline. Only the choicer sorts find a ready sale. The manufacturing outlook is not promising, some concerns having 25% of their machinery idle. Up to recently recovered wool manufacturers were doing fairly well, but are now realizing the effects of the trade depression and short time in recovered wool plants is general. Quoted prices for graded rags in the Dewsbury market are without change but are considered more nominal than real.

Wastes Uncertain

It is entirely a midsummer market in wool wastes. Few salesmen are on the road. It does not pay a house to send out men at present and it may be the middle of next month or nearer the end before the market throws off its indolence and goes after business in earnest. Apart from mohair wastes which continue in good demand and a few inquiries for camel hair, cashmere and artificial silk, movement of the market is confined within the market. Purchasing mills have their own ideas as to what they want to pay, and in the great majority of cases they are much lower than waste sellers can accept. Garnetted fine threads, which for a long time led the market, are now almost as neglected as any other type of waste. Medium threads are of no interest to the mills just now, nor is there any enthusiasm shown over colored threads, whether woolen or worsted although both classes are on the bargain counter. Fine burr waste remains soft; fine card waste is a trifle stronger.

Cotton Waste Weak

Fall in Cotton Depresses Prices from Combers to Sweeps

BOSTON.—Cotton waste merchandisers are engaged in adjusting themselves to the much lower level established by the slump in cotton. Depreciation of inventories has of course been enormous and while the well established and large houses can stand this kind of thing, having been in the business a number of years as well as being well placed financially, such a severe break in cotton unless some good recovery occurs immediately is certain to lead to a depressed situation in wastes and distress selling within the exchange on a large scale. This is the worst that can be said, perhaps, but there hardly seems any bright side to the situation just at present. Houses on the bear side feel quite differently of course, although short selling of waste rarely occurs in this market; but they have the satisfaction of knowing that they have cleaned themselves out so thoroughly of stocks that they are now in a position to take in wastes from other traders on much lower levels.

Cotton will have to stabilize itself before this market will be able to do any business on a large scale. It goes without saying that wastes have slipped off with cotton, not merely the choice materials but also the lower grades which sell at less than half the price of these commodities. Inquiry in the market suggests that no extensive stocks are held by the trading element and that the larger houses well established for years are not particularly disturbed over the situation. They are of course receiving deliveries from their contract mills but at lower prices and are well in a position to take care of all materials coming in.

The market is nominal so far as quotations are concerned; everything is in the buyer's favor although the larger houses are never stampeded by a slump in cotton nor over-excited or too eager sellers on a marked advance. Business is a trifle better in those houses specializing in wiping wastes. They still complain, however, of the the low bids made by railroads and the long time they have to wait for their money after the material is sold. This section of the market has been in trouble more or less all the year and there are no signs visible that improvement is in sight.

Cotton Waste Quotations

Peeler comber	21 -22
Peeler strips	20½-21
Sak. comber	20 -20½
Sak. strips	19½-20
Fine white Cop	12 -13
Choice willowed fly	8½- 9
Choice willowed picker	7½- 8½
Spooler and slasher	10½-11
Linters (mill run)	7½- 8

Cotton Market

(*Continued from page 151*)

although it is believed by many of the best posted people in the trade that there is still time to save the Texas crop if good rains speedily develop.

The following table shows Thursday's closing quotations in the leading spot markets of the country, with the usual comparisons:

Market.	July 26.	Aug. 2.	Chg.	Year.	Sales.
Galveston	23.55	22.90	—.65	22.09	16,050
N. Orleans	23.50	22.75	—.75	21.50	351
Mobile	23.50	22.50	—1.00	21.00	...
Savannah	23.80	22.75	—1.05	21.75	2,813
Norfolk	24.50	22.50	—2.00	21.75	3,058
New York	23.55	23.00	—.55	21.70	...
Augusta	23.56	22.75	—.81	21.50	664
Memphis	25.00	22.75	—2.25	22.50	325
St. Louis	25.00	22.50	—2.50	23.00	...
Houston	23.10	22.75	—.35	21.75	21,567
Dallas	23.05	22.50	—.55	21.45	20,951

The following differences on and off middlings are given as compiled from the reports received by the New York Cotton Exchange. The cotton grades marked * are not delivered on contract:

WHITE GRADES

	Dallas.	Mem-phis.	Mont-gomery.	Au-gusta.	Aver-age.
M. F.	1.00†	1.00†	1.00†	1.13†	.92†
S. G. M.	.75†	.75†	.75†	.88†	.69†
G. M.	.63†	.50†	.50†	.63†	.48†
S. M.	.38*	.25†	.25†	.38†	.26†
S. L. M.	.25*	.25*	.25*	.38*	.27*
L. M.	.63*	.75*	.50*	.75*	.69*
**S. G. D.	1.25*	1.25*	1.00*	1.13*	1.21*
**G. O.	1.75*	2.00*	1.50*	1.50*	1.75*

YELLOW TINGED

S. G. M.	.50†	.25†	.25†	.50†	.40†
G. M.	Even	Even	Even	Even	Even
S. M.	.50*	.25*	.25*	.50*	.38*
**Middling	1.00*	1.00*	.75*	1.00*	.93*
**S. L. M.	1.50*	1.50*	1.25*	1.50*	1.38*
**L. M.	2.00*	2.25*	1.75*	2.00*	1.90*

YELLOW STAINED

G. M.	.63*	.75*	.50*	.75*	.66*
**S. M.	1.25*	1.00*	1.00*	1.25*	1.24*
**Middling	2.00*	1.50*	1.50*	1.75*	1.71*

BLUE STAINS

**G. M.	1.00*	1.00*	1.00*	1.00*	.95*
**S. L. M.	1.50*	1.25*	1.25*	1.50*	1.33*
**Middling	2.00*	1.50*	1.75*	2.00*	1.75*

* Off middling. † On middling.

QUOTATIONS

(Corrected at close of business Wednesday)

WOOL WASTE

Lap:	
Fine white	1 25 —1 30
Fine colored	1 00 —1 05
Medium colored	58 — 63
Ring:	
Fine Australian	1 20 —1 25
Fine domestic	1 15 —1 20
Thread:	
Fine Australian	78 — 83
Fine domestic	75 — 79
Medium domestic	52 — 56
Quarter blood	40 — 45
Medium colored	17 — 20
Card:	
Fine Australian	60 — 65
Fine domestic	53 — 58
Medium domestic	33 — 38
Fine colored	15 — 20
Medium colored	8 — 10

REWORKED WOOL

	Cents per lb.
Serges—	
Blue	22—23
Brown	27—28
Green	29—30
Red	33—34
Black	21—22
Knits—	
White	58—60
Red	40—41
Brown	37—38
Merinos—	
Fine light	37—38
Fine dark	21—22
Coarse light	21—22
Worsted Skirted—	
Light	23—24
Blue	21—22
Dark	15—16
Brown	21—22

MEN'S WEAR CLIPS

Worsteds—	
Dark	18—19
Light	24—25
Black and white	28—29
Brown	26—27
Blue	31—32
Black	25—28

FLANNELS

Blue	15—16
Black	15—16
Green	17—18
Light	19—20
Tan	22—24
Scarlet	22—24

WOMEN'S WEAR CLIPS

Serges—	
White	50—55
Blue	22—23
Black	23—24
Brown	28—30
Green	28—30
Light	23—24
Tan	28—30

OLD WOOLEN RAGS

Merinos—	
Coarse light	7½— 9
Fine light	19 —21
Coarse dark	4 — 8
Fine dark	7 — 9
Serges—	
Light	12 —14
Brown	14 —15
Blue	6½— 7
Black	6½— 7
Red	13 —14
Green	12 —13
Knit—	
White	40 —41
Black	17 —18
Red	20 —21
Brown	19 —20
Light	24 —25

SKIRTED CLOTHS

Skirted Worsteds—	
Light	8 — 9
Black	8½— 9
Blue	7 — 8
Dark	4 — 5
Brown	7 — 8

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DYESTUFFS AND CHEMICALS

Further Declines in Textile Chemicals

Competition Keen as Demand Sags —Concessions the Rule— Alkalies Firm

There has certainly been nothing in recent developments in the industrial chemical market to afford even slight encouragement to producers or dealers. Not only has demand for most materials continued to fall off but prices have been affected so seriously by the resulting competition that practically all chemicals are subject to concessions. As a matter of fact there is not enough business, even of the inquiry class, to establish a definite level for most products; consequently prices must be considered largely nominal with shading in order at any time actual business is in sight.

As has been true during recent months, the alkalies continue to be the shining exception to this rule and do not fall into the pessimistic description applied to other branches of the trade. Contract withdrawals on both caustic soda and soda ash continue unusually large and quotations are decidedly firm even though contract prices are nominally unchanged. Bleaching powder is also rather exempt from the prevailing weakness because, even though demand for this material has not been particularly keen, nevertheless stocks are light and prices firm.

The Arsenic Situation

The situation in calcium arsenate is particularly puzzling. Despite earlier predictions of scarcity and high prices, this material seems to grow weaker as the season progresses and although the market is quoted nominally at 15 to 16c. per lb. sharp concessions are in order on spot. In connection with this chemical the report of the production of arsenic during the first 6 months of 1923, published in another column, is of interest in that it shows an increase of 25 per cent. over the rate of output in 1922, but is characterized as much less than the possible output stated in April when particularly optimistic predictions were heard.

Recent price changes include a fractional decline in permanganate of potash, now quoted at 16½ to 17½c.; a decline of 2c. in tin oxide to a range of 45 to 47c.; easiness in imported tartaric acid; and weakness in sulphide of soda, both 60% fused and 30% crystals.

Foster with S. R. David

Charles Foster, formerly New England manager for the Calco Chemical Co., has severed his relations with the above concern, and is now connected with the sales force of S. R. David & Co., Inc., Boston.

Prices quoted below were corrected to close of business Wednesday on the New York market, and we believe them to be accurate, though largely nominal.

MISCELLANEOUS CHEMICALS			
Acetone	22	—	23
Alumina-Sulphate Com.	1½	—	1¾
Iron Free	2¼	—	2½
Alum. Ammonia, Lump	3½	—	3¾
Potash, Lump	3½	—	4½
Ammoniac, Sal. white, gr.	6	—	8
Bleach powder, per 100 lb.	1 75	—	2 00
Blue Stone	4¾	—	5½
Calcium Arsenate	15	—	16
Chlorine Gas, Liquid	5½	—	6½
Copperas, ton	18 00	—	25 00
Cream of tartar, tech.	26	—	27
Epsom Salts, Tech., 100 lb.	1 10	—	1 75
Formaldehyde, Spot	14½	—	15
Glauber Salts, 100 lb.	75	—	1 45
Glycerine (C. P.) bbls., dms., extra	16	—	16½
Cans	17½	—	18
Distilled, yellow, crude	15	—	15½
Lead—Brown acetate	13	—	13½
White (crystals)	14	—	14½
Lime, acetate, 100 lb.	4 00	—	..
Potassium—Bichromate	10¼	—	10¾
Chlorate crystals	6½	—	9
Permanganate, tech.	16½	—	17½
Sodium acetate	5½	—	6
Bichromate	8	—	8½
Bisulphate, 35%	1½	—	..
Nitrite	7¼	—	8
Phosphate (Commercial)	3½	—	4
Prussiate, yellow	13	—	14
Sulphide, 60%, fused	3	—	4¾
30% crystals	2½	—	2½
Tartar emetic, tech.	28	—	31
Tin—Crystals	30	—	30½
Bichloride, 50 deg.	11½	—	12
Oxide, bbls.	45	—	47
Zinc dust	8½	—	9
ACIDS			
Acetic, 28%, per 100 lb.	3 40	—	4 00
Citric crystals	49	—	52
Formic, 85%	15	—	18
Lactic, 22%	4½	—	6½
Muriatic, 18 deg. per 100 lb., in tank cars	90	—	1 05
Nitric, 36 @ 42 deg. per 100 lb.	4 50	—	6 00
Oxalic	12½	—	13½
Sulphuric, 66 deg. per ton, in tank cars	15 00	—	16 00
Tartaric	34	—	37
ALKALIES			
Ammonia, aqua, 26 degs.	7	—	7½
Borax, refined, crystals and powdered, bbls.	5½	—	6½
Potash, carbonate, 80-85%	6½	—	8
Caustic, 70-75%	9	—	9½
Soda Ash, 58% light, per 100 lb., bags	1 75	—	2 10
Bicarbonate, per 100 lb.	2 00	—	2 25
Caustic, 76%, per 100 lb.	3 26	—	3 75
Sal. 100 lb.	1 10	—	1 35
NATURAL DYES AND TANNINS			
Fustic: Solid	14	—	15
Liquid, 51 deg.	10	—	12
Gambier, liquid	8	—	10
Hematine, Crystals	14	—	20
Hypernic Ext.—51 deg., red shade	14	—	19
Indigo—Madras	85	—	90
Logwood chips	2½	—	3½
Extract, liquid, 51 deg.	8	—	9
Crystals	17	—	19
Osage Orange, Extract, 51 degs.	7	—	7½
Osage Orange, crystals	17	—	18
Quercitron, Extract, 51 degs.	6½	—	7½
Sumac, Ext. dom., ref., 51 degs.	6½	—	7
Extract, stainless	8½	—	9
Tannic acid, technical	40	—	45
DYESTUFF INTERMEDIATES			
Alpha Naphthol, ref.	65	—	80
Crude	60	—	75
Alpha Naphthylamine	35	—	37
Aniline oil	16	—	16½
Salt	22	—	24
Beta Naphthol, sublimed	55	—	60
Technical	20	—	23
Dimethylaniline	42	—	43
Metaphenylene Diamine	90	—	1 00
Paranitraniline			
OILS AND SOAPS			
Castor Oil, No. 3	14	—	15
Lard oil, extra winter strained, 100 lb.	12 00	—	..
Extra No. 1, 100 lb.	10 50	—	..
No. 1, 100 lb.	10 00	—	..
Olive oil, denatured, gal.	1 15	—	1 20
Foots	8¼	—	..
Red oil, lb.	9½	—	..
Stearic Acid, single pressed	12½	—	..
Turkey Red Oil, 50%	8	—	9
ADHESIVE AND SIZING MATERIALS			
Albumin, blood, domestic	45	—	55
Egg, technical	95	—	1 00
Dextrine—Potato	7½	—	8
Corn, carload lots, bags, 100 lb.	3 79	—	3 84
Do., bbls., 100 lb.	4 06	—	4 11
Gum arabic, amber sorts	15	—	16
Gum, British, carload lots, bags, 100 lb.	4 14	—	..
Do., bbls., 100 lb.	4 41	—	..
Sago, flour	3¼	—	4
Starch, corn, bags, carload, 100 lb.	3 12	—	3 22
Do., bbls.	3 39	—	3 49
Corn, thin boiling, bags, 100 lb.	3 87	—	3 97
Do., bbls.	4 14	—	4 24
Potato	4½	—	6
Rice	9	—	12
Wheat	6	—	7
Tapioca flour	6	—	7
COAL TAR DYES			
Direct Colors—			
Black (H-acid)	35	—	40
Black, Columbia FF.	80	—	1 00
Blue, 2 B.	38	—	45
Blue, 3 B.	50	—	75
Blue, sky, ordinary	80	—	1 15
Blue, sky, FF.	1 15	—	2 30
Blue, Fast RL.	1 90	—	..
Blue, Solamine	1 50	—	..
Benzo Azurine	80	—	1 05
Brown C	65	—	85
Brown M	80	—	1 10
Brown, Congo G.	1 15	—	..
Brown, Congo R.	90	—	..
Green B	90	—	1 10
Green G	90	—	1 10
Orange, Congo	80	—	..
Orange, Fast S.	2 00	—	..
Red, Fast F.	1 10	—	1 40
Red, Congo	60	—	90
Red, Benzo Purpurine 4B	50	—	1 00
Red, Benzo Purpurine 10B	2 00	—	..
Scarlet, 4 BA	1 50	—	..
Scarlet, 4 BS	2 50	—	..
Scarlet, 8 BS	2 15	—	..
Scarlet, Diamine B	1 65	—	..
Violet N	1 30	—	1 60
Yellow, Chloramine	1 00	—	2 00
Yellow, Chrysamine	90	—	1 25
Yellow, Crysophenine	80	—	2 50
Yellow, Stilbene	90	—	1 25
Developing Colors—			
Black, B. H.	75	—	1 10
Black, Zambesi	3 50	—	..
Orange, developed	2 50	—	..
Primuline	1 00	—	1 15
Scarlet, Developed A.	2 50	—	..
Scarlet, Developed R.	3 00	—	..
Diazo Bordeaux 7B.	2 00	—	..
Sulphur Colors—			
Black	15	—	30
Blue, cadet	80	—	95
Blue, navy	60	—	90
Brown	25	—	60
Green	85	—	1 25
Green, olive	55	—	80
Yellow	70	—	1 00
Basic Colors—			
Auramine	1 50	—	2 50
Bismarck Brown	60	—	75
Chrysoidine	65	—	80
Fuchsine crystals	2 25	—	2 75
Malachite green	1 70	—	2 00
Methylene blue	1 50	—	2 00
Methyl violet	1 50	—	1 60
Rhodamine B, ex. cone.	7 90	—	8 50
Rhodamine 6G	12 00	—	18 00
Safranine	1 60	—	2 00
Victoria Blue B.	2 00	—	3 00
Acid Colors—			
Naphthol blue black	60	—	90
Naphthylamine black 4b	50	—	75
Sulphon black A.	1 10	—	..
Alizarine saphirol	3 50	—	4 50
Alkali Blue	3 50	—	4 50
Indigotine	1 75	—	2 50
Induline (water soluble)	75	—	95
Soluble Blue	2 75	—	3 50
Sulphocyanine	85	—	1 30
Sulphon Blue R.	1 00	—	..
Patent Blue A.	2 85	—	..
Resorcin brown	85	—	95
Guinea green	1 40	—	2 10
Wool green S.	85	—	2 30
Orange II	33	—	36
Orange GG (crystals)	60	—	1 00
Acid fuchsine	75	—	2 00
Amaranth	50	—	1 30
Azo Bordeaux	75	—	1 00
Azo eosine G.	1 25	—	2 25
Brilliant lanafuchsine	1 25	—	1 50
Brilliant scarlet	85	—	95
Crocein scarlet	1 10	—	1 35
Fast red A.	60	—	70
Azo yellow	1 10	—	1 40
Fast Light Yellow 2G.	2 00	—	..
Fast Light Yellow 3G.	3 50	—	..
Naphthol Yellow	1 35	—	1 40
Metanil Yellow	80	—	1 10
Tartrazine	65	—	85
Violet 10B	2 25	—	..
Violet 6BN	2 50	—	..
Victoria Violet	1 15	—	2 25
Formyl Violet	1 65	—	2 25
Chrome Colors—			
Alizarine (20% paste)	50	—	60
Alizarine Red S Powder	2 00	—	..
Alizarine Orange (20% paste)	50	—	60
Alizarine Yellow R.	45	—	75
Chrome Orange	90	—	1 10
Chrome Black A.	80	—	..
Diamond Black F.	1 00	—	1 50
Diamond Black P. V.	1 00	—	1 50
Gallocyanine	2 00	—	4 00
Palatine Chrome Black.	60	—	75
Anthracene Brown Powder	3 00	—	..
Acid Anthracene Brown R. H.	1 25	—	..
Palatine Chrome Brown.	75	—	1 20
Indigo—			
Synthetic, 20% paste	22	—	..

Lifeless Market in Coal Tar Products

Demand Routine — Declines in Crudes Weaken General List— Sumac a Strong Point

The removal of the dye patent case as a current topic of conversation has left little to discuss in the coal tar products market since actual trade developments are negligible. With demand following routine lines and with prices of crudes sagging, dyes themselves are lifeless. The list of prices is nominally unchanged but holders who need cash are willing to shade quotations in order to dispose of their stocks.

The dyewood market is about as uninteresting as is the coal tar market, with only one feature worthy of note, namely the strength in Sicilian sumac, which is now quoted at 8½ to 9c. per lb. for the extract.

British Dyes

Those concerned with the development of the dye industry in this country are interested in the statement of Sir William Alexander, chairman of the British Dyestuffs Corp., Ltd., before a general meeting of stockholders held July 10. The chairman stated that the average price of the dyes sold by his company today is 2s. 6d. as compared with an average of 3s. 5d. at the time of the last meeting, a reduction of 25%, and added that the directors considered that the demands of the consumer for price reductions had been met to the utmost of the resources of the company. He referred to the suggestion made by the Color Users Association that prices be reduced to a level of not more than three times the pre-war price as a maximum on each individual color. In explaining that such a procedure would result in the closing down of plants and the cessation of the manufacture of many important colors, Sir William explained that many colors are being sold within this factor but that others could only be so sold at a heavy financial loss and without any provision for research work toward the establishment and broadening of the industry.

Lose Hongkong Dye Trade

Control Passes Into Hands of Germans

WASHINGTON, D. C.—American dye manufacturers have lost the Hongkong market and control has passed into the hands of German manufacturers, reports Consul Leroy Webber, to the Department of Commerce. American manufacturers who secured and held the bulk of the South China trade during the war were unable to maintain their position when the Hongkong Government in 1920 pro-

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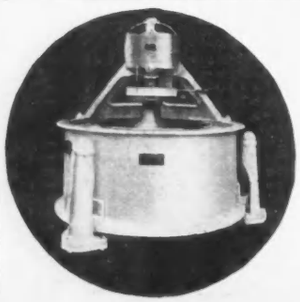

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hibited the importation of dyestuffs from all countries except Great Britain. When the embargo partially was removed and American dyes again were admitted, American manufacturers, who had kept no large stocks in this district, had lost the market and before there was an opportunity to regain lost ground, the embargo was removed altogether and German dyes which, Consul Webber reports, were well-known and enjoyed an excellent reputation, again flooded the market at prices below those of other foreign dyestuffs.

Imports of aniline dyes into Hongkong have not yet reached the pre-war volume, due to unsettled conditions which have prevailed in South China for the past few years, and also to the diminished consumption of piece goods with its resultant reaction on the dye market. Total imports of dyes last year amounted in value to £237,164, as compared with £134,277 in 1921, and £247,145 in 1920. Germany supplied dyestuffs valued at £134,133 in 1922, £40,466 in 1921, and £6,550 in 1920. Holland supplied £86,534 in 1922, £2,247 in 1921, and £14,065 in 1920. The United Kingdom supplied £2,132 in 1922, £30,095 in 1921, and and £12,492 in 1920. The United States supplied £1,288 in 1922; £16,241 in 1921, and £137,786 in 1920.

Chemical Show Tickets

Tickets for the 1923 Chemical Exposition which will open on Sept. 17 at the Grand Central Palace, New York, will be sent to exhibitors by Aug. 20 so as to permit the mailing of them in plenty of time to reach customers and friends early in September. Exhibitors have been requested to distribute tickets with care so as to cut down the really non-chemical element at this year's Exposition to a minimum. Owing to the crowding at the Exposition in past years during the last three days, the first three days of the week are suggested as the best time to view the exhibits in comfort and avoid the crowds. Likewise, and for the same reason, it is suggested visitors attend the Exposition in the afternoon in preference to the evening.

Carpet Making in Greece

The annual manufacture of carpets in the western region of Asia Minor is estimated at $75,000,000 annually. The influx of refugees from Smyrna has made it possible for Greece to replace Ionia in furnishing Europe with carpets. Factories have been erected at Athens, with branches in the Cyclades Islands, and a plant is being built in Crete, which will utilize Mediasiatic labor exclusively. English importers of Oriental carpets have recently sent representatives to Athens with a view to obtaining the exclusive sale of the output of these factories, according to the News Bulletin of the Federated American Chambers of Commerce of the Near East, Inc., New York.

Arsenic Production

First Six Months Show 25% Increase Over 1922

White arsenic was produced at nine plants operated by six companies in the United States during the first six months of 1923. According to the figures made public by the Department of the Interior, compiled by V. C. Heikes, of the Geological Survey, the sales during the first five months of the year and the estimated sales in June amounted to 6,035 short tons of refined arsenic, valued at 8.36 to 15c a lb., and 1,183 tons of crude arsenic, valued at 7.46 to 10c a lb. All contracts previously made to deliver arsenic at lower prices were completed with one exception. Besides these products, calcium arsenate was made directly from ore at Salt Lake City, Utah.

These figures show a lower average rate of production than that of last March, when the activities of the principal producers indicated a considerable increase rather than a decrease in the rate. No large stocks of arsenic remained at the works, and the prospect is good that production during the last half of the year will equal or exceed that during the first half. The rate of production maintained implies an increase of 25% or more over the output in 1922 but is much less than the possible output stated last April, when proposed increases indicated a domestic production of 22,000 tons of white arsenic. In the United States all white arsenic plants provide for relatively high rates of production prior to the hot season and after its close, but during that season operations are curtailed or suspended. One plant was closed as soon as hot weather started in order to protect the men from the poisonous dust.

Imports

The imports of white arsenic during the first three months of 1923 amounted to 2,694 short tons, valued at $447,645. During this period Germany shipped the largest quantity of white arsenic—588 short tons, valued at $117,549—and was followed by Japan, with 513 tons, valued at $78,869. Other countries, named in order of size of shipments of white arsenic to the United States, were France, Belgium, Mexico, England, Canada, Dominican Republic, Brazil, and Australia. If the imports of white arsenic continued during 1923 at the rate of 800 tons a month the total available supply in the United States for the year will be about 21,000 tons.

Supplies in the U. S.

The western States have the largest undeveloped deposits of arsenic, and these are now receiving attention. Several new plants for the direct treatment of arsenic ores are planned. New sources of arsenic are necessary if the United States is to continue to supply the bulk of its requirements.

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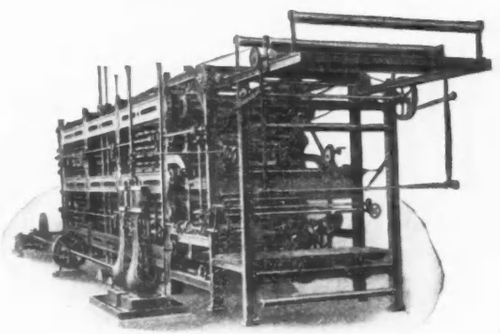

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The benefits of this policy are bound to reach the ultimate buyer in the form of reduced selling costs and better sales methods. Here again we are hewing to the line laid down by our Standard No. 1—"To consider first the interests of the subscriber."

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JESSE H. NEAL, *Executive Secretary*

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The TEXTILE WORLD is a member of the A. B. P., Inc.

Worsted Yarn Faults

(*Continued from page* 119)

combing which enable the top-maker to get a clear top free from neps, with a reduced noil extraction, act to some extent against the spinner performing his work efficiently. But it would not be fair to make this indictment without qualification. Spinners are sometimes guilty themselves of making uneven yarn. One need go no further than the first gill box of a drawing set to see how and where they are made. Although the spinner is aware that uneven yarns are often the result of varying fibres blended together in pre-combing processes, he frequently blends fibres of different length.

Common English Blends

A common blend is 60s and 58s, or 64s, 60s, and 58s, and in making these blends the question uppermost in the spinner's mind is price. There is, however, often a great difference in length between 60s and 58s, more so than between 64s and 58s, because 64s are usually longer than 60s. It should be possible to obtain a super 58s to meet the requirements of the first blend, and a super 60s for the second blend.

The creel of the gill box should not contain tops varying in character and length so widely, as there is often too much diversity of fibre length in the top blend without introducing tops varying in themselves. It is questionable whether spinners in the worsted trade are alive to the importance of this matter. Tops are offered as being a certain quality which are, obviously, not of the necessary fineness, lengths, etc. Standards are ignored, and evidently ignorance of top blends is bliss.

Top Standards

Top standards ought to include mean length of fibres, and spinners are justified in asking that these should be properly certified. The spinners should consider this question collectively, with a view to getting a guaranteed count from any top bought. It is difficult to ascertain the spinning capacity of tops. Length and fineness are important and need not be emphasized, but treatment in scouring, climatic conditions, district of origin, whether carbonized or pulled, are questions which the spinner would like to ask regarding the tops submitted to him, but which under present conditions, in England at least, it is not politic for him to put.

Yet many of these properties directly influence the soundness of the yarn, for where fibres are defective the yarn is uneven. For instance, skin wool may need extra twist in the drawing operation, and such twist has a cumulative action and has to be drafted against, with the result that bad drafting is often the result. And badly made slivers and slubbings make uneven yarn in the final spinning process.

It may be argued from the comber's standpoint that the spinner only buys what he wants. There is no compulsion, and if the market was restricted during the war period, there is now an abundance of tops and an unlimited choice for buyers. Do they buy the best and reject the low? Or are spinners prepared to struggle with second-class tops rather than give a good price for well blended and combed tops?

Machine Settings

Machines are well equipped, men are well trained; is it all with the idea of trying to make imperfect tops into perfect yarns? Is it for the purpose of taking third-rate wool and attempting to make from it first-class yarn? To summarize, the first requisite for making even yarn is a blend of wool uniform in length and character. The second requisite is a normal "tear" in combing, and the third is that every care should be taken by the spinner in ratching and drafting in the drawing and spinning processes.

The successful overseer in a worsted mill combines knowledge of the raw material with mechanical skill, and seeks to apply the latter as the former suggests. He must first know why he adjusts, and then how to adjust the auxiliary fallers, rollers, carriers, etc., of the various machines Uneven yarns are occasionally produced from good wool because of the negligence or inability on the part of overseers or managers.

Those working, say, 36s wool into yarn, know that when spinning fine, say 26s, and coarse, say 14s, from the same roving (12 drams), the drafts are widely different, being 17 for 26s and 9 for 14s. To make even yarn in both counts needs some modification in control of fibres between back and front rollers. When 17 of a draft is imposed, the carriers should be set near to the front rollers, and for the short draft the carriers should be opened out.

The omission of minor changes are productive of twitty yarns when spinning luster wool to low counts. In the example stated there are loopholes for criticism. It may be said, "Why not make two weights of roving, say 14 drams for 14s and 8 drams for 24s?" This would overcome the necessity for moving the carriers, but would entail changing sets of rovings.

A great deal depends on circumstances as to which course to follow. If frames can be allowed to remain on one count for long periods, it would be wisest to make two weights of roving, but if the frames must be frequently changed from a finer to a thicker count, or vice versa, 12 dram roving is the best medium, providing the carriers are moved up or down as required for the change in draft.

Waste Accumulations

In botany and fine crossbred drawing and spinning, the necessity for keeping fallers, rollers and carriers clean cannot be too strongly urged. These fine fibres are short and control must be exercised in a limited space. The distance between the drafting rollers is small and only two rows of carriers can be used. The wooden tumblers must always be in place, and always effective. Brush waste and laps must be periodically removed from tumblers and carriers.

Inefficient fiber control is often the product of waste accumulation on carriers. Rack rollers should be free from dirt, and from anything which keeps them apart. In spinning it should be considered satisfactory if the operative only pieced one end per half minute. Still, under such favorable conditions there are 1,080 piecings in about 26 pounds of yarn, and a percentage of these badly made could give rise to serious complaint. To keep down or to eliminate uneven yarn necessitates every worker in the mill being trained to recognize anything that would produce faults.

Every worker should be alert and untiring in his or her efforts to produce perfect work. From the highest to the lowest everyone should be a tryer. The employer should not spare his capital or his advice, and the workers should not begrudge their efforts to eliminate faults in yarns. Samples of fabric exhibiting bad piecings, slubs, effect of mixings, wrong winding, etc., might with advantage be displayed in spinning and drawing rooms.

Indian Expansion

According to a report of the Bombay Millowners' Association there were 3,117,284 spindles and 65,521 looms in the cotton mills of that district at the close of 1922, as compared with 3,025,488 spindles and 62,763 looms in 1921. The figures for the whole of India for the last three years are as follows:

Year	Mills	Spindles	Looms	Cotton consumed
1920...	253	6,736,076	119,012	6,833,113,000
1921...	257	6,870,804	123,783	7,420,805,000
1922...	298	7,331,219	134,620	7,712,390,000

The production of yarn in India in 1922 was 706,210,908 pounds, against 688,849,466 pounds in 1921, and the production of cloth 1,768,829,724 yards, against 1,662,596,253 yards.

Business News

Kerr Turbine Co. Reorganization

The Kerr Turbine Company of Wellsville, N. Y., has just undergone a reorganization through the acquisition of practically all its common stock by new interests. Paul B. Hanks, the former president, having disposed of his holdings, has resigned and has been succeeded by W. T. Hamilton of Pittsburgh, Pa. Mr. Hamilton has associated with him a number of well known engineers and experienced manufacturers.

Ample capital for expansion has been put into the business of a sufficient amount to take care of all the present and future requirements, enabling the company to take care of any volume of business that may be developed in its line of manufacture.

Opens Havana Branch Bank

The First National Bank of Boston announces the opening of a branch bank at Havana, Cuba. This branch, under the management of John G. Carriker, is now doing a general banking business.

Outings and Field Days

FALL RIVER, MASS. About 400 employes of the King Philip Mills attended the outing at Fort Phoenix, Fairhaven, recently.

LAWRENCE, MASS. Charles W. Walworth, president of Walworth Bros., Inc., was the chief guest at a recent outing of the 150 employes of the mill, at Canobie Lake, N. H. A list of sports featured the affair.

NEW BEDFORD, MASS. In recognition of their success in the various branches of athletics promoted by the Acushnet and Hathaway mills of this city, members of the football, baseball and basketball teams were the guests of overseers and second hands of the plant at a clambake served at Woodhouse's pavilion in Padanaram recently. The baseball game between the two mills ended in a tie score of 9 runs each, the Hathaway mill winning the tug of war contest.

NEW BEDFORD, MASS. The New Bedford Cotton Mills Corp. held their annual clambake and field day recently at Perry's Grove, the doughnut eating contest for girls and the tug of war between the men furnishing the feature events on the sport program. The machine shop representatives proved themselves too strong for those of the weaving room and won the prize in the test of strength. The committee in charge was headed by William E. Jones.

SOUTHBRIDGE, MASS. The sixth annual field day of the Hamilton Woolen Co. was held at the Sturbridge (Mass.) fair grounds on July 28 and was attended by most of the 1,800 employes with members of their families. The company had as guests about 30 representatives of Wellington, Sears & Co., New York and Boston, selling agents, who were welcomed by Agent E. Benjamin Armstrong. Horse races and various kinds of sports made up the program, the events closing with a dance at night at the Hippodrome. The 104th Regiment band from Springfield, Mass., furnished the music.

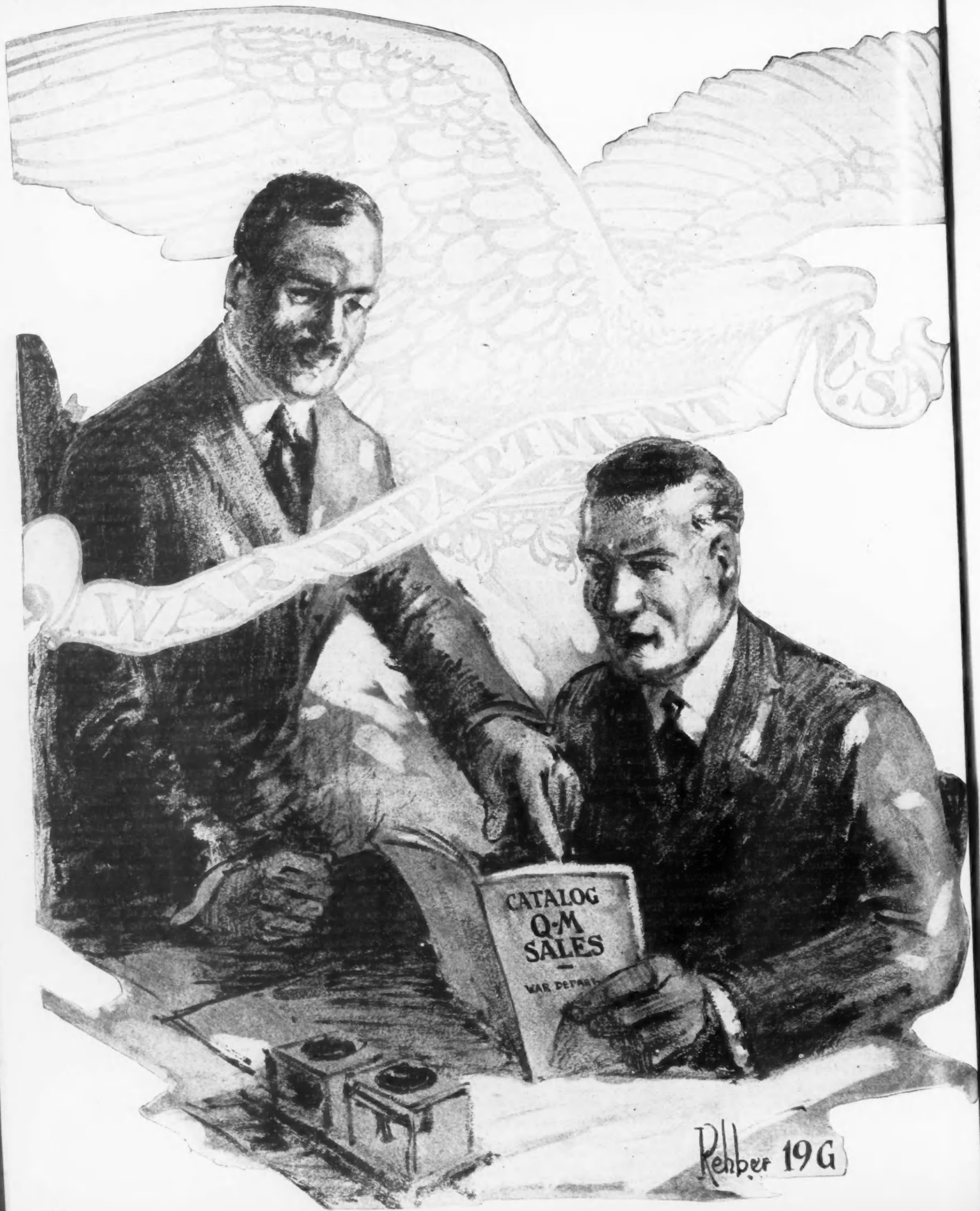
WHITINSVILLE, MASS. In celebration of its 50th anniversary the Whitinsville Spinning Ring Co., of which Arthur F. Whitin is president and one of the founders, has invited its 100 employes to participate in an outing to Nantasket Beach, Mass., on Aug. 18. Transportation and all other expenses will be paid by the company.

WORCESTER, MASS. The annual field day of the employes of the M. J. Whittall Associates will be held at Whittall Field, Saturday, Aug. 25. Soccer, baseball, and other games will feature the program.

COHOES, N. Y. About 50 employes of the Elasto Textile Co. attended the annual outing at Kaydeross Park, Saratoga Lake last week. A program of sports was followed by luncheon.

WAPPINGERS FALLS, N. Y. A combined visit and picnic to Garnersville is planned for the employes of the Dutchess Bleachery, Inc., on September 15. Interesting events are scheduled.

WEEDSPORT, N. Y. A large number attended the annual picnic of the Vulcan Knitting Mills, Inc., at Lakeside Park, July 28. An elaborate dinner was served and various sports enjoyed.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